Telephone No. 2419677/2419361
Fax: 0821-2419363/2419301

e-mail : registrar@uni-mysore.ac.in
www.uni-mysore.ac.in

UNIVERSITY OF MYSORE

Estd. 1916

VishwavidyanilayaKaryasoudha
Crawford Hall, Mysuru- 570 005

No.AC10/194/2018-19

Dated: 16th July 2018

NOTIFICATION

Sub: Provision of Lateral entry/transfer to 1st year and 2nd year B.Sc. Honors in Agricultural Science and Technology/Horticultural Science and Technology Course under Specialized Program from the academic year 2018-19.

Ref: 1.Decision of the Board of Studies in Agri Science and Horticultural Technology held on 01-02-2018.
2. Decision of the Faculty of Science Meeting held on 19.04.2018.
3. Decision of the Academic Council Meeting held on 19.06.2018.

*****

The Board of Studies in Agri Science and Horticultural Technology, which met on 01st February 2018 has recommended to Introduce a Provision of Lateral entry/transfer to 1st year and 2nd year B.Sc. Honors in Agricultural Science and Technology/Horticultural Science and Technology Course under Specialized Program at Sampoorna International Institute of Agri Science and Horticultural Technology, Channapatna, from the academic year 2018-19 as follows,

1. Candidates who have successfully completed 1st year and 2nd year of B.Sc. Agricultural/Horticulture from UGC recognized Universities (within Karnataka) are eligible for admission to 2nd year and 3rd year of the course respectively subject to the approval from the University.
2. Candidates who have successfully completed 1st year and 2nd year of B.Sc. Agricultural Science/Horticultural Science from UGC recognized Universities (outside Karnataka) are eligible for admission to 2nd year and 3rd year of the course respectively subject to the approval by the equivalence committee and authorities of University of Mysore.

The Faculty of Science and Technology and Academic Council Meeting held on 21-04-2018 and 19.06.2018 respectively have approved the above said proposal and the same is hereby notified.

Draft approved by the Registrar

Deputy Registrar (Academic)

To:

1. The Registrar (Evaluation), University of Mysore, Mysuru.
2. The Dean, Faculty of Science Department of Studies in Physics, Manasagangotri, Mysuru.
3. The Chairman, Board of Studies in Agri Science and Horticultural Technology, DOS in Botany, Manasagangotri, Mysuru.
4. The Director, PMEB, Pareeksha Bhavan, University of Mysore, Mysuru.
5. The Principal, Sampoorna International Institute of Agri Science and Horticultural Technology, No. 271/2, K.B. Doddi Grama, Madapura Doddi, Nidgatta Grama Panchyath, Athkur Post, Maddur Taluk, Mandya Dist.
6. The Director, College Development Council, MoulyaBhavan, Manasagangotri, Mysuru.
7. The Deputy Registrar/Assistant Registrar/Superintendent, AB and EB, University of Mysore, Mysuru.
8. The PA to Vice-Chancellor/Registrar/Registrar (Evaluation), University of Mysore, Mysuru.
9. Office Copy.

Telephone No. 2419677/2419361
Fax: 0821-2419363/2419301

e-mail : registrar@uni-mysore.ac.in
www.uni-mysore.ac.in

UNIVERSITY OF MYSORE

Estd. 1916

VishwavidyanilayaKaryasoudha
Crawford Hall, Mysuru- 570 005

No.AC10/194/2018-19

Dated: 16th July 2018

NOTIFICATION

Sub: Introducing Post Graduate Diploma in Wellness Science under Specialized Program at Mysore Central Academy of Arts & Multimedia Mysuru from the academic year 2018-19.

Ref: 1.Decision of the Board of Studies in Specialized Program offered by the MCAAM held on 14-06-2018.
2. Decision of the Faculty of Science Meeting held on 19.04.2018.
3. Decision of the Academic Council Meeting held on 19.06.2018.

*****

The Board of Studies in Post Graduate Diploma in Wellness Science (Specialized programmes offered by the Mysore Central Academy of Arts and Multimedia Mysuru) which met on 14th June 2018 has recommended to Introduce Post Graduate Diploma in Wellness Science under Specialized Program at Mysore Central Academy of Arts & Multimedia Mysuru from the academic year 2018-19.

The Faculty of Science and Technology Academic Council Meeting held on 21-04-2018 and 19.06.2018 respectively have approved the above said proposal and the same is hereby notified.

The Syllabus and Regulation may be downloaded from the University Website i.e., www.uni-mysore.ac.in

Draft approved by the Registrar

Deputy Registrar (Academic)

To:

1. The Registrar (Evaluation), University of Mysore, Mysuru.
2. The Dean, Faculty of Science Department of Studies in Physics, Manasagangotri, Mysuru.
3. Prof. B.S. Vishwanath, DOS in Biochemistry, Manasagangotri, Mysuru.
4. The Director, Mysore Central Academy of Arts & Multimedia, (A unit of Delta Foundation) CA-10, 16th Main 5th Cross, Saraswathipuram, Mysuru-09
5. The Director, PMEB, Pareeksha Bhavan, University of Mysore, Mysuru.
6. The Director, College Development Council, MoulyaBhavan, Manasagangotri, Mysuru.
7. The Deputy Registrar/Assistant Registrar/Superintendent, AB and EB, University of Mysore, Mysuru.
8. The PA to Vice-Chancellor/Registrar/Registrar (Evaluation), University of Mysore, Mysuru.
9. Office Copy.

Telephone No. 2419677/2419361
Fax: 0821-2419363/2419301

e-mail : registrar@uni-mysore.ac.in
www.uni-mysore.ac.in

UNIVERSITY OF MYSORE

Estd. 1916

VishwavidyanilayaKaryasoudha
Crawford Hall, Mysuru- 570 005

No.AC10/194/2018-19

Dated: 16th July 2018

NOTIFICATION

Sub: Syllabus and Scheme Starting of Bachelor of Fine Arts (BFA) in Digital Art and Animation-4 years Course under Specialized Program at Asian Institute of Gaming an Animation Bangalore from the academic year 2017-18.

Ref: 1.Decision of the Board of Studies in Bachelor of Fine Arts in Digital Art and Animation held on 01-03-2018.
2. Decision of the Faculty of Science Meeting held on 21.04.2018.
3. Decision of the Academic Council Meeting held on 19.06.2018.

*****

The Board of Studies in Bachelor of Fine Arts (BFA) in Digital Art and Animation which met on 01st March 2018 has approved the Syllabus implemented from the academic year 2017-18 for BFA Course offered under specialized program at Asian Institute of Gaming an Animation Bangalore from the academic year 2017-18.

The Faculty of Science and Academic Council Meeting held on 21-04-2018 and 19.06.2018 respectively have also ratified the Syllabus and regulation and the same is hereby notified.

The Syllabus and Regulation may be downloaded from the University Website i.e., www.uni-mysore.ac.in

Draft approved by the Registrar

Deputy Registrar (Academic)

To:

1. The Registrar (Evaluation), University of Mysore, Mysuru.
2. The Dean, Faculty of Science Department of Studies in Physics, Manasagangotri, Mysuru.
3. The Chairman, Board of Studies in Bachelor of Fine Arts in Digital Art and Animation, DOS in Computer Science, Manasagangotri, Mysuru.
4. The Director, PMEB, Pareeksha Bhavan, University of Mysore, Mysuru.
5. The Chairman, Bachelor of Fine Arts in Digital Art and Animation, Bangalore.
6. The Director, College Development Council, MoulyaBhavan, Manasagangotri, Mysuru.
7. The Deputy Registrar/Assistant Registrar/Superintendent, AB and EB, University of Mysore, Mysuru.
8. The PA to Vice-Chancellor/Registrar/Registrar (Evaluation), University of Mysore, Mysuru.
9. Office Copy.

Telephone No. 2419677/2419361
Fax: 0821-2419363/2419301

e-mail : registrar@uni-mysore.ac.in
www.uni-mysore.ac.in

UNIVERSITY OF MYSORE

Estd. 1916

VishwavidyanilayaKaryasoudha
Crawford Hall, Mysuru- 570 005

No.AC10/194/2018-19

Dated: 16th July 2018

NOTIFICATION

Sub: Introducing Master in Animation and VFX (CBCS) under Specialized Program at Mysore Central Academy of Arts & Multimedia Mysuru from the academic year 2018-19.

Ref: 1.Decision of the Board of Studies in Specialized Program offered by the MCAAM held on 14-12-2017.
2. Decision of the Faculty of Science Meeting held on 19.04.2018.
3. Decision of the Academic Council Meeting held on 19.06.2018.

*****

The Board of Studies in Specialized/Specified programmes (offered by the Mysore Central Academy of Arts and Multimedia Mysuru) which met on 14th December 2017 has recommended to Introducing Master in Animation and VFX (CBCS) under Specialized Program at Mysore Central Academy of Arts & Multimedia Mysuru from the academic year 2018-19.

The Faculty of Science and Technology Academic Council Meeting held on 21-04-2018 and 19.06.2018 respectively have approved the above said proposal and the same is hereby notified.

The Syllabus and Regulation may be downloaded from the University Website i.e., www.uni-mysore.ac.in

Draft approved by the Registrar

Deputy Registrar (Academic)

To:

1. The Registrar (Evaluation), University of Mysore, Mysuru.
2. The Dean, Faculty of Science Department of Studies in Physics, Manasagangotri, Mysuru.
3. Prof. B.S. Vishwanath, DOS in Biochemistry, Manasagangotri, Mysuru.
4. The Director, Mysore Central Academy of Arts & Multimedia, (A unit of Delta Foundation) CA-10, 16th Main 5th Cross, Saraswathipuram, Mysuru-09
5. The Director, PMEB, Pareeksha Bhavan, University of Mysore, Mysuru.
6. The Director, College Development Council, MoulyaBhavan, Manasagangotri, Mysuru.
7. The Deputy Registrar/Assistant Registrar/Superintendent, AB and EB, University of Mysore, Mysuru.
8. The PA to Vice-Chancellor/Registrar/Registrar (Evaluation), University of Mysore, Mysuru.
9. Office Copy.

UNIVERSITY OF MYSORE

REGULATIONS & SYLLABUS

for

MASTER IN ANIMATION & VFX

(Choice Based Credit System)

Effective from the Academic Year 2018-19

Mysore Central Academy of Arts & Multimedia

Unit of Delta Foundation (R)

CA-10, 16th Main, 5th Cross, Saraswathipuram, Mysore – 570 009

Ph: 0821 – 2526999 / 72599 96006

Preamble:

Media and Entertainment are the most emerging and fast growing industries in India and the whole world is taking notice of the efficiency, skill and talent available in the country in these fields. To aid further growth of these industries, it is extremely important that formal and professional level training programs and courses are introduced at University and College levels to create highly skilled and trained professionals for this Industry. Animation is an important segment in this Industry and this course is being introduced to train people in the field of animation which is an inherent part of a variety of industries today and find applications in industries even beyond Media and Entertainment.

The data from NASSCOM (Animation and Gaming Report 2007) states that there are approximately 16000 animators in India and majority of these animators are employed gainfully in Mumbai, Chennai, Bangalore, Hyderabad, Pune etc. The lack of skilled people is badly affecting the animation industry. Most studios have projects lined up for the coming years with tight deadlines to keep as most of these projects are from the international market. This situation has forced the industry to look for animation professionals from international markets and many studios are recruiting foreign hands.

The animation business is sidelining the animation education and even after 15 years of existence in India the field is not understood. The existing animation education lacks professional training methodologies which are only available at Higher Education levels and comprises of Private training institutes that are cashing the visible boom in the industry. Some of these establishments can only provide ill trained and insecure artists and technicians which will only compound the problem. A lot needs to be done, at a very fast pace if we have to maintain our competitive edge and deliver content be it films, serials or games. There is a huge market for it as India has yet to discover its appetite for animation, and the world is still hungry for more!

Opportunities for professionals in Animation Industry:

Global market:

The global animation market (demand perspective) was estimated at USD 59 billion in 2006. The market is expected to grow at a CAGR of nearly 8 percent over 2008 to reach USD 80 billion by 2011. The total revenue earned in the segment, approximately 40-45 percent is attributed to the cost of development. Consequently the global market for animated content and related service is estimated at USD 25-26 billion and the forecast to cross USD 34 billion by 2011 with animation. The entertainment segment will continue to remain the major contributor, accounting for nearly three-fourth of the total market through the forecast period.

Indian market:

The Indian animation industry revenues were estimated at USD 354 million in 2006, a growth rate of 25 percent over 2005. This industry is forecast to reach USD 869 million by 2011, representing a CAGR of 25 percent by 2011. The entertainment contributes nearly 68 percent of the total animation market in India. The key factors driving the growth are significant, cost advantage, a large pool of English speaking manpower, growing maturity of animation studios and development of IP and an attractive domestic market opportunity.

Career Opportunities:

After completion of the Post Graduate Degree Program students can get job opportunities / placements in the following segments in industry:-

1. Media and Entertainment
2. Animation Studios
3. Post Production Houses (PP)
4. Broadcast Houses
5. Game Studios (Game Art)
6. Visual Effects (VFX) for Films and Television
7. Advertisement Industry
8. Design Visualization
9. Architectural /Interior/Landscape Designing
10. Product designing/Mechanical Visualization/ Industrial designing
11. Medical Visualization
12. Set Designing/Exhibition Designing
13. Apparel/ Fashion Designing
14. E-learning/CBT Designing
15. Web Designing
16. Graphic Design
17. 3D Modeler
18. Animator
19. Material & Lighting Artist
20. Action Scripting Programmer
21. Virtual Reality Artist
22. Rigging Artist
23. Compositor
24. Editor
25. VFX Artist

Target Industries:

- Motion Picture Production
- Television Broadcast Production Advertising
- Medical Animation
- Cartoon Animation
- Architectural Designs
- Interior Designing
- Automobile Designing
- Fashion Product and accessory Designs
- Video Gaming

Eligibility and Admission Criteria:

"The candidates seeking admission should have successfully completed Bachelor's degree from a recognized University is eligible for admission".

The admissions for the Master in Animation & VFX course is as per University of Mysore PG admissions. Regulations and guidelines as per the CBCS regulations.

Course of study:

a) The course of study for the Master in Animation & VFX shall extend over a period of two years consisting of four semesters. Each semester shall be of sixteen weeks duration. The academic calendar shall be as notified by the university from time to time.
b) A candidate can take a maximum of four years for completion as per double the duration norms of University of Mysore.
c) The medium of instruction shall be English.

Attendance, Progress and Conduct:

As per the University of Mysore PG regulations.

List of subjects to be studied for Master in Animation & VFX:

Paper	T/P	Title of the paper
I SEMESTER		
Soft core (any 3 papers)		
MAV : 101	T	Principles of Drawing and Anatomy *(soft core)*
MAV : 102	T	Introduction to Animation *(soft core)*
MAV : 103	T	Art of Film making *(soft core)*
MAV : 104	T	Visual Communication *(soft core)*
Hard core		
MAV : 105	P	3D production - 1 *(hard core)*
MAV : 106	P	Digital Matte painting *(hard core)*
MAV : 107	P	Basics of Editing & Compositing *(hard core)*
II SEMESTER		
Soft core (any 2 papers)		
MAV : 201	T	Introduction to Photography *(soft core)*
MAV : 202	T	Virtual reality *(soft core)*
MAV : 203	T	2D Animation & Special Effects *(soft core)*
Hard core		
MAV : 204	T	Animation Techniques *(hard core)*
MAV : 205	P	3D Production - 2 *(hard core)*
MAV : 206	P	Motion Graphics & Particle Animation *(hard core)*
MAV : 207	P	Camera tracking, Rotoscopy & Match moving *(hard core)*
III SEMESTER		
MAV : 301	T	Camera Techniques & Color Science *(hard core)*
MAV : 302	T	CG Integration Techniques *(hard core)*
MAV : 303	T	CG Visual Effects *(hard core)*
MAV : 304	P	Advanced Editing & Compositing *(hard core)*
MAV : 305	P	Advanced 3D Effects *(hard core)*
Optional Elective		
MAV : 306	P	Character FX (CFX) *(hard core)*
MAV : 307	P	3D Simulations *(hard core)*
Open Elective		
IV SEMESTER		
MAV : 401	P	Crowd Simulation *(hard core)*
MAV : 402	P	3D Creature Animation *(hard core)*
MAV : 403	P	Sound Effects & Editing *(hard core)*
MAV : 404		Internship, Project, Report, Presentation and Viva *(hard core)*
OPEN ELECTIVE FOR OTHER DEPARTMENTS		
Semester II	T	Introduction to Photography *(soft core)*
Semester III	P	Digital Graphics Tools and Techniques *(hard core)*

Scheme of Examination:

The Choice Based Credit System (CBCS) regulations of University of Mysore shall be applicable to this course.

The duration and maximum marks and minimum marks for pass in each of the theory and practical shall be as given below:

Paper	Theory Papers and Practical	Credits				Marks						Total	
		L 3hrs/ week	T 1hr/ week	P 4hrs/ week	Credits	I.A		Theory Exam		Practical Exam			
						Max	Min	Max	Min	Max	Min	Max	Min
I Semester													
MAV: 101	Principles of Drawing and Anatomy	3	1	0	4	30	12	70	28	-	-	100	40
MAV: 102	Introduction to Animation	3	1	0	4	30	12	70	28	-	-	100	40
MAV: 103	Art of Film making	3	1	0	4	30	12	70	28	-	-	100	40
MAV: 104	Visual Communication	3	1	0	4	30	12	70	28	-	-	100	40
MAV: 105	3D production - 1	0	0	2	2	30	12	-	-	70	28	100	40
MAV: 106	Digital Matte painting	0	0	2	2	30	12	-	-	70	28	100	40
MAV: 107	Basics of Editing & Compositing	0	0	2	2	30	12	-	-	70	28	100	40
TOTAL		**9**	**3**	**6**	**18**							**600**	**240**

II Semester													
MAV: 201	Introduction to Photography	3	1	0	4	30	12	70	28	-	-	100	40
MAV: 202	Virtual reality	3	1	0	4	30	12	70	28	-	-	100	40
MAV: 203	2D Animation & Special Effects	3	1	0	4	30	12	70	28	-	-	100	40
MAV: 204	Animation Techniques	3	1	0	4	30	12	70	28	-	-	100	40
MAV: 205	3D Production - 2	0	0	2	2	30	12	-	-	70	28	100	40
MAV: 206	Motion Graphics & Particle Animation	0	0	2	2	30	12	-	-	70	28	100	40
MAV: 207	Camera tracking, Rotoscopy & Match moving	0	0	2	2	30	12	-	-	70	28	100	40
TOTAL		**9**	**3**	**6**	**18**							**600**	**240**

III Semester													
MAV: 301	Camera Techniques & Color Science	3	1	0	4	30	12	70	28	-	-	100	40
MAV: 302	CG Integration Techniques	3	1	0	4	30	12	70	28	-	-	100	40
MAV: 303	CG Visual Effects	3	1	0	4	30	12	70	28	-	-	100	40
MAV: 304	Advanced Editing & Compositing	0	0	2	2	30	12	-	-	70	28	100	40
MAV: 305	Advanced 3D Effects	0	0	2	2	30	12	-	-	70	28	100	40
Optional Elective													
MAV: 306	Character FX (CFX)	0	0	2	2	30	12	-	-	70	28	100	40
MAV: 307	3D Simulations	0	0	2	2	30	12	-	-	70	28	100	40
Open Elective													
TOTAL		**9**	**3**	**6**	**18**							**600**	**240**

IV Semester													
MAV: 401	Crowd Simulation	0	0	2	2	30	12	-	-	70	28	100	40
MAV: 402	3D Creature Animation	0	0	2	2	30	12	-	-	70	28	100	40
MAV: 403	Sound Effects & Editing	0	0	2	2	30	12	-	-	70	28	100	40
MAV: 404	Internship, Project, Project Report, Presentation and Viva	0	0	12	12	90	36	210	84	-	-	300	120
TOTAL		**0**	**0**	**18**	**18**							**600**	**240**

Course Type	Credits
Hard Core	52
Soft Core	20
Open Elective	04
TOTAL	**76**

*In case of practical examination, the following scheme shall be followed:
Writing procedure – 10 marks, Execution - 40 marks, Viva-voce – 20

**In case of Project, the following scheme shall be followed:
Animation film: 100 marks, Viva-voce: 30 marks, Dissertation: 80 marks

The internal assessment marks in each theory paper shall be awarded by the concerned course teacher based on (i) Three class tests, each of one hour duration, conducted by him/ her during the semester, (ii) Assignment and (iii) one seminar.

Internal assessment: 30 marks
C1 Test: 15 marks
C2 Test: 15 marks

The internal assessment marks in each practical shall be awarded by the concerned course teacher based on (i) three practical tests, each of one hour duration, conducted by him/ her during the semester, (ii) Practical Record evaluation.

Internal assessment: 30 marks
C1 Test: 15 marks (10 marks + 5 Practical Record)
C2 Test: 15 marks (10 marks + 5 Practical Record)

The Candidate shall submit two copies of the dissertation on project work during fourth semester for evaluation. The project viva shall be conducted by one internal examiner and one external examiner approved by the Registrar (Evaluation).

Internal assessment: 90 marks
C1 Test: 45 marks (25 marks + 20 project story + story board)
C2 Test: 45 marks (production & post production pipeline)

Declaration of results and classification of successful candidates:
The results and grades of the Master in Animation & VFX shall be declared as per the regulations of the Choice Based Credit System and continuous Grading Pattern (CAGP) – Post graduate courses of University of Mysore.

Proposed Pattern of Question paper for the Master's in Animation & VFX course offered through outreach program for the academic year 2018-2019 onwards:

Time : 3 hours **Max Marks: 70**

Instructions: a) Answer all the sections.
b) Draw illustrations wherever necessary.

PART-A

Answer the following: **(2 X 10 = 20)**

1.
2.
3.
4.
5.
6.
7.
8.
9.
10.

PART-B

Answer any TEN of the following. **(5 X 10 = 50)**

1.
2.
3.
4.
5.
6.
7.
8.
9.
10.
11.
12.

SEMESTER I

MAV:101 - Principles of Drawing and Anatomy

UNIT-1

Anatomy and Drawing for Animation Introduction To Sketching And Drawing- Introduction to basic drawing techniques including proportions and Line, Using Pencils for shading, Sketching of Moving Objects - People And Animals, Proportion in portrait drawing, Highlighting and shadows, Drawings with the help of basic shapes, Understanding of the relationship of bones and muscles at rest and in movement to able to translate and maintaining correct volumes.

UNIT-2

Perspective Introduction to Perspectives: Perspective in 1 point, Perspective in 2 point, Perspective in 3 point, Eye levels, Vanishing point, Significance of Perspective in animation and composition, Humans and animal forms in perspective, Perspective- blocks, boxes and shapes, Scale diagrams in perspective, Different viewpoints, Importance of eye level.

UNIT-3

Color Theory and Color Composition The first steps in color drawing, Understanding the Color theory by studying the color wheel, Illusion drawings, communicating with color, Color and mood, Color and painting styles, Color and compositions, Color in action, Realism, immersion and believability in color scheme, Digital color correction.

UNIT-4

Studying Human and animal movement through sequential drawings, gesture drawing, Caricaturing – fundamentals, Exaggeration, Attitude, Silhouettes, Boundary breaking exercises and warm ups, gesture drawing, Line drawing and quick sketches, Drawing from observation, memory and imagination.

References:

1. Drawn to Life: 20 Golden Years of Disney Master Classes: Volume 1: The Walt Stanchfield Lectures"
2. "Drawn to Life: 20 Golden Years of Disney Master Classes: Volume 2: The Walt Stanchfield Lectures"
3. "Man watching" Desmond Morris
4. "Teach Yourself Body Language" Gordon Wainwright
5. "Drawing on the Right Side of the Brain" Betty Edwards 6. "The Natural Way to Draw" Kimon Nicolaides

MAV:102 - Introduction to Animation

UNIT I

Introduction to 3d Animation:

Lecture: Animation- Latin word - animatia Explanation, demonstrating simple examples to explain motion picture/ moving imagery technology through Imagery or (ppt presentation / video), (24/fps) persistence of vision principle, demo examples.

Class exercises: Collecting 3d Animation statements, Explanations and its origin

Applications of 3d Animation:

Lecture: Usage of 3d animation Technology in Film making, gaming, Advertisement, Architecture Walkthrough, Education CBTs, Forensic, Mechanical, Simulation, Medical Simulation, Electrical & Electronic Simulation, Space simulation etc.,

Class exercises: (a) collect all the demos, which give example for all the applications of animation

UNIT II

Sculpting Techniques:

Lecture: Introduction to basic Modeling methodology, basic primitives and modifiers from the tool, demonstrating Prop and set models construction, NURBS modeling techniques, Surface Modeling techniques, Polygon Modeling Techniques, Mesh Modeling Techniques, Patch Modeling Techniques, Simple Cartoon Backgrounds for 3d film making, vehicle modeling using Low poly Technique, simple character models

Practical: Creating 5 simple props and Set models, any one vehicle and character, one interior and exterior setup construction demonstration

Submission: any cartoon background (interior and exterior), any one vehicle, any 2 organic and inorganic characters each.

Surfacing Techniques:

Lecture: Introduction to basic Texturing methodology, basic primitives and modifiers from the tool, demonstrating surfacing using bitmap to Prop and set models construction, Texturing Simple Cartoon Backgrounds for 3d film making, UV mapping, UVUUWRAP techniques.

Practical: demonstrating prop texturing, organic model unwrapping, texturing a vehicle.

Submission: 5 textured organic models, 5 textured inorganic Models

UNIT III

Lighting Techniques:

Lecture: Introduction to light Theory and its Properties, importance of lighting in 3d animation filmmaking, demonstrating interior lighting, exterior lighting, character 2 point and 3 point lighting. Explaining with examples how light is important for a sequence of any story line. Mode and atmosphere using light effects.

Practical: Creating interior lighting and exterior lighting using photometric and normal standard lighting from the tool. Five Character lighting examples
Submissions: 5 interior and 5 exterior lighting (cartoon BG / live CGI BG)
Camera Techniques:
Lecture: Introduction to importance of camera angles in 3d animation film making with examples, showing examples related to long shot, extreme long shot, medium shot, close-up shot , extreme close-up shots in animation footage, different camera tools like default camera, MR camera, V ray Camera usage in production, Areal views, live views in one point and two point perspective captures, camera panning techniques, rigging camera to a path for sequence render etc.,
Practical: creating camera adjustments to above module outputs for final render.
Submission: Three point view outputs for comic movies, one point & two point view outputs for third cartoon movies

UNIT IV
Rigging Methods:
Lecture: Introduction to giving controls to characters, showing bone construction methodology, showing the principles of rigging through which character can perform force transmitted through joint limb, facial rigging and expression chart. Vehicle rigging, Camera rigging , biped rig, tripped rig, quadruped rigging.
Practical: Demonstrating biped, tripped, quadruped rigging
Submissions: Any two from the each one category - biped, tripped, quadruped rigging
Animation Principles:
Lecture: 12 Disney animation Principles to animate cartoons, Stretch & Squash, Slow in and Slow out, Key frame and in-betweens, Anticipation, Appeal , Follow through and overlapping, Secondary action, Pose to pose animation and Straight ahead animation techniques, Exaggeration, timing, weight, volume etc., explaining through practical demonstration ,video presentation, imagery and acting.
Practical: Collect information about animation principles through various sources, practice basic exercises on each animation principles
Submissions: 12 animation principles exercises – each principle 2 exercises.
Animating rigged Characters:
Lecture: analyzing the controls and quality of the rigged characters, setting key poses (stepped tangents), and graph editor to control the action, same procedures for facial animation & Lip sinking.
Practical: animate the character – walk jump run
Submissions: walk run jump in play blast format
Rendering Techniques:
Lecture: Default rendering techniques, mental ray rendering techniques, V ray rendering techniques to execute prop, set, organic modeling, interior & exterior render outputs.
Practical: demonstrating all the render techniques to execute organic render and inorganic render.

Submissions: 5 interior, 5 exterior, 2 character turn around (cartoon/realistic), any two vehicle turn around.

Preparing Department Show reels:

Lecture: collecting all the render sequences / images creating show reel using related tools

Practical: using tool explaining how to create demo reels for portfolio

Submissions: submit modeling & texturing demo reel, lighting and camera demo reel, animation and rigging demo real.

References:

1. The Complete Animation Course by Chris Patmore.
2. The Animator's Workbook by Tony White.
3. The Animator's Survival Kit: A Manual of Methods, Principles, and Formulas for Classical, Computer, Games, Stop Motion, and Internet Animators by Richard Williams.
4. Character Animation Crash Course! by Eric Goldberg
5. Handbook Of Multimedia & Animation, By Shukla A.S
6. 3D Art Essentials: The Fundamentals of 3D Modeling, Texturing, and Animation Hardcover – Import, 3 Jul 2017 – by Ami Chopine

MAV:103 - Art of Film Making

UNIT-1

Basics Basic art of filmmaking, Types of Film Production, Development- Selection of concept, Film budget justification, Green-light. Pre-production- Area of research, Script development -types, Draft preparation. Shot, scene, Story board, Copy right (Law/Ethics), Hiring actors or models, Crew members Role of Director & procedures. Art Director, Cinematographer, Director of Lighting, Floor Manager, Production Manager. Preparing Production board/Management, Planning and Budgeting for Production, Location scouting. Set direction & color correction, Equipments required and tests, Finalizing props, shooting schedule, Script breakdown,

UNIT-2

Digital Video Equipments Introduction to Digital Video Equipments: Digital Video Camera-Types – Format- Major Components - Operation and Functions. Lens – Types – Aperture-Shutter. Focusing Methods. Focal Length. Depth of Field. Video signal- Types and Functions. Tripod- Types. Clapboard- Usage. Light meter. Other Useful Accessories. Digital Camera-Movements-Composition-Shots- Angles. Single & multi-camera operations.

UNIT-3

PRODUCTION - Shooting on location, Shooting script, Visualization, Selection of Dialogue, Rehearsing, Basic and Special Lighting Usage. Setup-Atmospheric Lighting, Cinematography, Principal photography, Mic arrangements. Camera placement. Tool and techniques. Online, offline, recorded & live programs. Schedule alterations. Changes in relation to artists date / location problems. Daily call sheet, Daily progress report, Cost report.

UNIT-4

POST-PRODUCTION - Video Capturing and Footage review. Final scripting. Basic software & hardware's. Editing, Video Editing-types. EDL Preparations, Editing Techniques- Continuity-Sequence-Dynamic. Linear and Non-Linear Editing. A-B roll & its advantage, Method of Video Effects and Video Transition, Chromo-Keying. Re- recording Video. Voice-over, Sync sound, audio mixing, Role of audio & effects, Mix and composite, Finding Music. Special effect. (Sound, Visual, Graphics and Animation), Titles, Film Screening, FT (Fit for Telecast) certificate, Certificate Approving, Marketing-getting sponsors. Publicity, Film Releasing. VIDEO & AUDIO CODECS Definition and use of CODECS. Codec formats & types. Storage Devices CD/DVD/BD (Blue-ray Disc). Montage, promos, special promos.

References:

1. Television Production – Gerald Millerson, Focal press,1999.London.
2. The Technique of Television Production 2001 by Gerald Millerson . Focal press. London.
3. Digital Cinematography 2001– Paul Wheeler, Focal Press,. London. First edition.

4. The Essential of TV Director's Handbook 1996 – Peter Jarvis, Focal Press. III-Edition, London.
5. An Introduction to digital Video (1994) – John Watkinson, Focal Press, London.
6. Video Production – Disciplines & Techniques by Thomas D. Burrows, Lynne S.Gross – MC G rawhill.
7. Lighting Techniques For Video Production – Tom Letourneau.1996.Mc will publications . Tanzania. First edition.
8. Digital Non-Linear Editing 1998.– Second edition, Thomas A. Ohanian, Focal Press. London. Sixth edition

MAV:104 - Virtual Reality

UNIT-1

Need for and the Importance of Human and Visual Communication. Communication a expression, skill and process, Understanding Communication: SMRC-Model. Types of Media – Traditional media, Print media, Electronic media and any other new media.

UNIT-2

Communication as a process. Message, Meaning, Connotation, Denotation Culture/Codes etc Levels of communication: Technical, Semantic, and Pragmatic. The semiotic landscape: language and visual communication, narrative representation. Principles of Visual and other Sensory Perceptions. Colour psychology and theory (some aspects) Definition.

UNIT-3

Fundamentals of Design: Definition. Approaches to Design, Centrality of Design, Elements/Elements of Design: Line, Shape, Space, Colour, Texture. Form Etc. Principles of Design: Symmetry. Rhythm, Contrast, Balance Mass/Scale etc. Design and Designers (Need, role, process, methodologies etc.)

UNIT-4

Basics of Graphic Design: Definition, Elements of GD, Design process-research, a source of concept, the process of developing ideas-verbal, visual, combination & thematic, visual thinking, associative techniques, materials, tools (precision instruments etc.) design execution, and presentation.

References:

1. Lester, E (2000) Visual Communications: Images with Messages. Thomson Learning
2. Schildgen, T (1998). Pocket Guide to color with digital applications. Thomsom Learning
3. Picture this: Media Representation of Visual Arts and artists. University of Luton Press
4. Palmer, Frederic: Visual Elements of Art and Design,1989, Longman.
5. Porter, Tom and Goodman, Sue: Manual of Graphic Technique 2: For Architects, Graphic Designers, and Artists,1982, Astragal Books. London.
6. Palmer. F: Visual Awareness (Batsford, 1972)

MAV:105 - 3D Production-1 (Modeling / Texturing / Lighting)

Softwares used: Photoshop. MAYA/Blender, Mental Ray, V Ray

Practical 01	Modeling: Surface & Polygon models
Practical 02	Modeling: Interior & Exterior with props
Practical 03	Modeling: basic Characters
Practical 04	Modeling: Props & Environment designs
Practical 05	Texturing: Difference between materials and shaders
Practical 06	Texturing: Creating environmental textures and Props textures
Practical 07	Texturing: Difference between diffuse, normal map, secular, ambient occlusion & displacement map.
Practical 08	Texturing: Creating character texture
Practical 09	Lighting: Types & Properties of lights
Practical 10	Lighting: Techniques of lights
Practical 11	Lighting: Interior & Exterior lighting
Practical 12	Lighting: Advanced Lighting (Mental Ray & V Ray)

MAV:106 Digital Matte painting

Softwares used: Adobe Photoshop / Gimp

Practical 01	Sky replacement
Practical 02	Day to night technique
Practical 03	New to Abandoned conversion(Part 1)
Practical 04	New to Abandoned conversion(Part 2)
Practical 05	Summer/Winter Conversion
Practical 06	2.5 D alien planet painting
Practical 07	2.5 D alien planet painting
Practical 08	Stereoscopic Matte painting (Compositional Study, Establishing Mood, Set Modeling)
Practical 09	Stereoscopic Matte painting (Creating Background and Middle ground and Foreground)
Practical 10	Stereoscopic Matte painting (Camera Projection and Adding Final Details)

MAV:107 - Basics of Editing & Compositing

Softwares used: Adobe Premier Pro, Adobe After Effects

Practical 01	Basic compositing techniques using After Effects
Practical 02	Basic Transformations and Layer information (Null, Camera, Adjustment layer, solid layer, light)

Practical 03	Keying (green screen removal, layer composition) in after effects
Practical 04	Introduction to motion graphics
Practical 05	Time remapping
Practical 06	Basic Effects, Color corrections & Basic rendering in after effects
Practical 07	Basic editing techniques using premier pro
Practical 08	Basic Transformation layers (audio & video)
Practical 09	Keying (green screen removal, layer composition) in premier pro
Practical 10	Basic Effects (video & audio editing)
Practical 11	Layers (maintaining video & audio layers)
Practical 12	Basic Effects, Color corrections & Basic rendering in premier pro

SEMESTER II

MAV:201 - Introduction to Photography

UNIT: I

Photography Basics, Brief history of Photography, To learn Properties of photograph Resolution, Aspect ratio, Formats eg:- jpeg, png, tiff, targa and gif, Difference between film and digital, Photography as art, Some important photographers and their theories, When photography was added in fine arts, Types of cameras.

UNIT: II

Fundamentals of Photography, Types of photography:- Candid photography, Low light photography, Object and Product Photography. Composition rules, Techniques of Photography- camera, Types of professional lights.

UNIT: III

Digital Photography - Camera, Deleting, Chips, depending upon ME (Mega Bytes), What are pixels, Types of pixels, How to take pictures in a camera, Storing and deleting Outdoor Photography: Use of different lenses, Nature photography, Portrait and landscape Exposure. Handling a professional still camera: How to manage setting in different situations, ISO, Shutter speed, Aperture, White balance.

UNIT: IV

Studio photography: How to use green screen, Background selection, Lighting
Indoor Photography: How to do camera settings in indoor area, How to create depth of field in indoor space.
Photo manipulation with Photoshop: Adjustment settings in Photoshop, How to create HDR (High Dynamic Range) photo, Cleanup of images, Image compositing, Matte painting.

Assignments:

1. Take photograph using film and digital camera to show the difference between film and digital.
2. Prepare one chart to show how photography from science came to art and finally to fine arts.
3. Make one presentation on Types of cameras
4. Product photography
5. Arrange few odd number of products to explain Composition rules.
6. Create three point lighting for taking a portrait photography
7. Use a 50mm lens and write description about how it is helpful In taking photographs in low lighting conditions.
8. Portrait and landscape photographs
9. Nature Photography

10. Candid Photography .

Text Book:

1. Basic Photography by John Hedgecoe, Publisher: Collins & Brown, 2006, 160 pages
2. The Photoshop CS Book for Digital Photographers by Scott Kelby, Publisher: New Riders Publishing, 2003, 250 pages

Books for reference:

1. The 35mm Photographer's Handbook by Julian Calder, John Garrett, 2nd Edition, Publisher: Pan Macmillan, 1990, 240 pages
2. Digital Photography: Expert Techniques by Ken Milburn, 2nd Edition, Publisher: O'Reilly Media, Inc., 2007, 390 pages
3. The Photoshop CS Book for Digital Photographers by Scott Kelby, Publisher: New Riders Publishing, 2003, 250 pages
4. Creative Photoshop: Digital Illustration and Art Techniques Covering Photoshop CS3, Digital Workflow Series by Derek Lea , Publisher: Elsevier/Focal Press, 2007,

MAV:202 - Virtual Reality

UNIT-1

Introduction to Virtual reality(VR), Historical perspective, Interactive VR, VR Applications(Medical, Films, Games, Military applications, Evacuation), VR viewing devices, Hardware, sensors, displays, software, virtual world generator, game engines, human senses, perceptual psychology, psychophysics., Language of VR films, VR story telling, VR rigs, VR audio, VR pipeline, VR production and Rendering, VR Deliverables, VR future, VR Concerns and challenges.

UNIT-2

vantage point, Light field technology, Octane Render, Holographic video, 2D 360 photos, 3D 360 photos, ORBX holographic video, VR capture methods, virtual reality photography, parallax, Multiple camera rigs, GoPro, Epic/Dragon, and Jaunt, VR tools, AutoPano Pro and AutoPano Giga, Unity3D, Photoshop, Mixamo (web site), HTC VIVE - Virtual Reality System, constructing the stitched environment, Correcting for misaligned sections, ghosting and exporting the various cameras for further compositing.

UNIT-3

Three interpretations of light, Refraction, Simple lenses, Diopters, Imaging properties of lenses, Lens aberrations, Optical system of eyes, Photoreceptors, Sufficient resolution for VR, Light intensity, Eye movements, Eye movement issues for VR, Neuroscience of vision, Depth perception, Motion perception, Frame rates and displays, Graphical rendering, ray tracing, shading, BRDFs, rasterization, barycentric coordinates, VR rendering problems, anti-aliasing, distortion shading, image warping (time warp), panoramic rendering.

UNIT-4

Tracking Systems, Orientation tracking, Tilt drift correction, Yaw drift correction, Tracking with a camera, Perspective n-point problem, Interaction-Remapping, locomotion, manipulation, social interaction, specialized interaction mechanisms, Sound propagation, ear physiology, auditory perception, auditory localization; Fourier analysis; acoustic modeling, HRTFs, rendering, auralization, Touch, haptics, taste, smell, robotic interfaces, telepresence, brain-machine interfaces.

References

1. Virtual Reality By Steven M. LaValle. To be published by Cambridge University Press.(http://msl.cs.uiuc.edu/vr/)
2. George Mather, Foundations of Sensation and Perception: Psychology Press; 2 edition, 2009.
3. Peter Shirley, MichaelAshikhmin, and Steve Marschner, Fund

MAV:203 - 2D Animation & Special Effects

UNIT- I

Timeline construction and management, Keyframe animation, ,Motion and shape tweening ,Working with symbols, ,Importing from Illustrator and Photoshop, ,Basic scripting in Actionscript 3.0, ,Delivery and file formats, Flash Video examples.

UNIT- II

Types of graphics, animation types, overview of the animation (flash), 2D animation and its features, Drawing tools, types of panels, transformation, property panel, working with objects, group, bitmap, Controlling MovieClips with code, ,Working with Dynamic Text fields, and Input Text Fields ,Loading external content and other flash movies, Dynamic preloaders, ,Interactivity with code.

UNIT- III

Text box Font, style, hyperlink, property panel, Working with symbols, Planning the development process, ,Working with XML and dynamically generated content.

UNIT- IV

Grid and guidelines, Onion-skinning, Difference between 2D and 3D animation, Animation in flash, Tweening and motion along a path, Controlling movie playback, Text and hyperlink, adding sound and movie, File format in flash, test movie, Testing the movies.

References

1. Anderson Richard, Homer Alex & Simon Robinson, Flash In A Flash Web Development
2. Learning Flash 5
3. Learning Flash Mx 2004

4. Crumlish Christian, Web Design With Html/Flash/Java Script & E-Commerce
5. Leigh Ronald.W., Flash 5 For Dummies Sahni Sartaj, Flash Mx Actionscript For Designers The Non Programmers Guide To Maximum To Flash - The Non-Programers

MAV:203 - Animation Techniques

UNIT I

Introduction to types of Animation

Lecture: explaining the types of animation like Cel animation, full and limited animation, CGI animation techniques like 2D 3D, live action, Motion Capture using video presentation / visuals, introduction to basics of rotoscopy animation, graphic animation, stop motion animations like – paper cut animation, claymation, brick animation, object animation, chalkboard animation techniques. Silhouette animation etc.,

Tutorial: create a PPT presentation on various types of animation techniques with visuals and videos

Submission: PPT presentation on Types of animation and its usage in film industry and advertisement.

UNIT II

(brick/object/chalkboard) animations:

Stop Motion Photography: Pre-Production

Lecture: Generating Concept, Story, Screenplay, characters and its costume, model sheet creation, background, music/background score, voice recording, color compositions, Animatic

Tutorial: (paper work/Hand drawing exercises) Concept, Story, Screenplay, characters and its costume, background, using tools creating voice recording according to screenplay, x-sheet/dope sheet for the sequence.

Submission: submit Animatics for selected screenplay.

Stop Motion Photography: Production

Lecture: different methods of capturing for various animation techniques (camera techniques, long shot, extreme long shot, close up and extreme close up shots), Setups for 3 dimensional shots(eg: wire setups for ball bounce sequence etc,. object/brick animation) camera pan techniques, camera adjustment setups, quality check, testing the shots, cross cutting unwanted process in capturing sequences.

Tutorial**:** capture sequences, testing sequence, quality check

Submission: submit all the captured frames for the selected project (scenes – shots- key frames – in-betweens, background etc.,)

Stop Motion Photography: Post-Production

Lecture: Explaining various software used to composite the captured sequence. Editing the scenes according to storyboard/screenplay, synchronizing background score, Sound editing for transitions and variations, shot-to-shot transitions, title animation for the project, rendering in Normal, HD, Full HD and other video presets for various screens.

Tutorial: using application complete the simple sequence with all the above details.

Submission: Submit a simple (brick/object/chalkboard) animation clip

UNIT III

Claymation animation: Pre-Production

Stop Motion Photography: Pre-Production

Lecture: Generating Concept, Story, Screenplay, characters and its costume, model sheet creation, virtual miniature setup for background, music/background score, voice recording, color compositions, Animatic, Creating Armature for characters in various methods, fabric work for surfacing the character, costume, hair, facial features and other setups, creating sequential facial features for lip sinc.

Tutorial: (paper work/Hand drawing exercises) Concept, Story, Screenplay, characters and its costume, background, using tools creating voice recording according to screenplay, x-sheet/dope sheet for the sequence.

Submission: submit Animatics for selected screenplay**.**

Claymation animation: Production

Lecture: different methods of capturing for various animation techniques (camera techniques, long shot, extreme long shot, close up and extreme close up shots), Setups for 3 dimensional shots(eg: wire setups for ball bounce sequence etc,. object/brick animation) camera pan techniques, camera adjustment setups, quality check, testing the shots, cross cutting unwanted process in capturing sequences.

Tutorial: capture sequences, testing sequence, quality check

Submission**:** submit all the captured frames for the selected project (scenes – shots- key frames – in-betweens, background etc.,)

Claymation animation: Post-Production

Stop Motion Photography: Post-Production

Lecture: Explaining various software used to composite the captured sequence. Editing the scenes according to storyboard/screenplay, synchronizing background score, Sound editing for transitions and variations, shot-to-shot transitions, title animation for the project, rendering in Normal, HD, Full HD and other video presets for various screens.

Tutorial: using application complete the simple sequence with all the above details.

Submission: Submit a simple claymation animation clip

UNIT IV

Paper cut animation: Pre-Production

Stop Motion Photography: Pre-Production

Lecture: Generating Concept, Story, Screenplay, model sheet creation, music/background score, voice recording, color compositions, Animatic, creating sequential facial features for lip sync, Stencils cutting according for characters and background elements.

Tutorial: (paper work/Hand drawing exercises) Concept, Story, Screenplay, characters and its costume, background, using tools creating voice recording according to screenplay, x-sheet/dope sheet for the sequence, creating sequential facial features for lip sync, Stencils cutting according for characters and background elements. .

Submission: submit character stencils file.

Paper cut animation: Production

Lecture: different methods of capturing for various animation techniques (camera techniques, long shot, extreme long shot, close up and extreme close up shots), camera pan techniques, camera adjustment setups, quality check, testing the shots, cross cutting unwanted process in capturing sequences, registering the cutouts.

Tutorial: capture sequences, testing sequence, quality check

Submission: submit all the captured frames for the selected project (scenes – shots- key frames – in-betweens, background etc.,)

Paper cut animation: Post-Production

Stop Motion Photography: Post-Production

Lecture: Explaining various software used to composite the captured sequence. Editing the scenes according to storyboard/screenplay, synchronizing background score, Sound editing for transitions and variations, shot-to-shot transitions, title animation for the project, rendering in Normal, HD, Full HD and other video presets for various screens.

Tutorial: using application complete the simple sequence with all the above details.

Submission: Submit a simple papercut animation clip

Reference Books:

Timing for animation – by Harold Whitaker and John Halas

Illusion of life - Ollie Johnston and Frank Thomas

Art of Stop-motion animation – by Ken A Priebe

MAV:205 - 3D Production-2 (Rigging / Animation / Rendering)

Softwares Used: MAYA / Blender, Mental Ray, V Ray

Practical 01	Constructing joints & IK handles
Practical 02	Binding & skinning
Practical 03	Paint skin weights tool
Practical 04	Set driven key & controls
Practical 05	Morphing
Practical 06	Principles of animation
Practical 07	Path animation
Practical 08	Character animation (walk, run, jump)
Practical 09	Pose to Pose animation
Practical 10	Rendering setup
Practical 11	Harware, Software, Mental Ray, V ray rendering
Practical 12	Introduction to render passes

MAV:206 - Motion Graphics & Particle Animation

Softwares used: After Effects, Nuke

Practical 01	Logo Animation
Practical 02	Typography Animation
Practical 03	News Channel Lower third Animation
Practical 04	Organic Growth Animation
Practical 05	Broadcast Opener
Practical 06	Futuristic Menu
Practical 07	Infographic Mograph (Pre –production)
Practical 08	Infographic Mograph (Asset preparation)
Practical 09	Infographic Mograph (Animation and FX)
Practical 10	Infographic Mograph (Compositing & Rendering and Sound)

MAV:207 - Camera tracking, Rotoscopy and Match moving

Softwares used: After Effects, Nuke, Match Mover

Practical 01	Auto 3D tracking
Practical 02	Manual 3point footage tracking
Practical 03	Nodel pan shot tracking
Practical 04	Geometrical shape tracking
Practical 05	Variable focal length tracking
Practical 06	Multiple shot tracking
Practical 07	Rotoscopy Sports activity
Practical 08	Rotoscopy Dancing character
Practical 09	Rotoscopy Bug/Animal
Practical 10	Rotoscopy Character with hair/fur and Cloth

SEMESTER III

MAV:301 - Camera Techniques & Color Science

UNIT-1

High Speed Photography, Underwater Photography, Matching live action on a green screen, shooting interior and exterior green screen, Compression and Codecs, Log, LUTs and workflows, Filters and Variable NDs, tilt and shift lenses, foreground/background plates, anamorphic lenses, green-screen shooting techniques, Relationship between bit-depth and dynamic range, Sensors, Importance to image quality color sampling, Camera filtration, anamorphic look with standard lenses, LUTs, pinhole camera and macro photography, Philosophy of color, sfx and new technology, 3D photography; Specialized lighting; Table top, lighting in-camera effects, compositing, Use of anamorphic formats; lighting (ext and int) and simple in-camera effects, Basics of photography and how f/stop, shutter speed and ISO affect

UNIT-2

Technical introduction to color science, CIE standard observer, tristimulus values ("tristimuli"), RGB values, RGB color mixtures, CMY coding of motion picture film, densitometric coding of classic CPD/DPX systems, Perceptually uniform coding, concept of linearity importance in modern imaging systems, lightness, power functions and logarithms, code-100 problem, bit depth to represent reality, bit depth to satisfy human vision, Lin, log, and quasilog coding, Color transforms, affine transforms (3x3 linear matrix, in LMS, XYZ, RGB color spaces, and also in Y'CBCR spaces), projective transforms (used in CIE xy), nonlinear transforms (including CIE LAB), 3D LUTs, gamut mapping, and ICC colour management systems.

UNIT-3

Color spectrum and theory, colours representation electronically, Subtractive filter mixing, Color transforms, Lightness/Color/Video terminology, code 100 issue in linear coding, notions of LOG/LIN, Perceptual uniformity and Video/HDTV camera "Gamma" controls, Display gammas for different viewing conditions, Power functions of gamma and video color coding, Appearance effects, compensate for Wide colour gamut, Color management, LUTs and profile building, ACES workflow,

UNIT-4

ACES input device transform, IDT and illumination dependencies, Distribution, DCI P3 image coding used for reference D-cinema projectors, XYZ coding for DCPs, HD, 2K, 4K ("UHD"), 8K, current and future image formats, partial sampling, re-ampling, and oversampling, Emergent display systems: Wide gamut color, LED backlights on LCD displays; OLED displays; laser displays; spatially modulated backlights and high dynamic range displays, observer metamerism in emergent displays.

References:

1. View Camera Technique by Leslie D. Stroebel
2. View Camera Technique By Leslie Stroebel
3. Digital Camera Techniques Creative Black and White Photography: Advanced Camera and Darkroom Techniques by Bernhard J. SuessBy Jon Tarrant
4. Auditioning On Camera: An Actor's Guide By Joseph Hacker
5. Color Science: Concepts and Methods, Quantitative Data and Formulae By Günther Wyszecki, W. S. Stiles
6. Colour: Art and Science By Trevor Lamb, Janine Bourriau
7. Color and Meaning: Art, Science, and Symbolism By John Gage
8. Color Correction Handbook: Professional Techniques for Video and Cinema By Alexis Van Hurkman

MAV:302 - CG Integration Techniques

UNIT-1

Pre-viz and storyboarding, Pipeline, Lighting, Concepts and Stages, HDR Lighting, Preparation and Workflow, Look Dev, Concepts to Development, Optics, Cameras and Lens, finally Compositing Single and Multi Sample, High Dynamic Range Images and their use in lighting, photos taken using an 8mm fisheye lens and convert these into multiple HDRI's, AutoPano Gigo, stitching these into a single LatLong, Color balance them to the background plate, Chroma keying techniques,

UNIT-2

Extracting the key light source from the image and cleaning up, Importing image to material into 3D application and use the data to light, Key light sources and using the cleaned up original LatLong, using projected images and proxy geometry to create a localized HDR Illuminated object integrate into an environment, Point cloud techniques for 3D geometry and environment

UNIT-3

Infrastructure, R&D as VFX supervisor, open Color IO (OCIO), OCIO for colour management, OCIO nodes, concepts: linear workflow, scene referred linear, OCIO and texture creation. Converting log and scene linear images for text and reference, Linear workflow for IBL, Mental Ray and color management in Maya, Creating view LUTs, using OCIO CDLs and baking LUTs for Maya and integrating OCIO in Maya 2013 and Nuke, RenderMan, Nvidia's mental ray, Solid Angel's Arnold, and Chaos Group's V-Ray.

UNIT-4

Slap Comps using both single and multiple sample images, Deep Compositing, Deep Image Data, Additive and subtractive compositing approaches, Lighting rendering and breaking our

3d work into deliverables for comp, Compositing CG assets, Color matching, optical enhancements and integration using CG data from 3d for complex interaction, Creating IBL asset.

References:

1. ISBN:9788183340040, Elements Of Statics & Dynamics Part 2 Dynamics, Loney Sl, 2005
2. Zerouni, Craig. Houdini On the Spot. Focal Press, 2007
3. Maya Studio Projects: Dynamics by Todd Palamar (Author)
4. Maya Visual Effects The Innovator's Guide: Autodesk Official Press by Eric Keller (Author)
5. Autodesk Getting Started with Maya 2015
   URL:docs.autodesk.com/mayaul/2015/enu/gettingstarted
6. The Art and Science of Digital Compositing, Second Edition: Techniques
7. for Visual Effects, Animation and Motion Graphics (The Morgan Kaufmann Series in
8. Computer Graphics) by Ron Brinkmann (Author)
9. The Digital Matte Painting Handbook by David B. Mattingly (Author)
10. The VES Handbook of Visual Effects: Industry Standard VFX Practices and
11. Procedures by Susan Zwerman (Editor), Jeffrey A. Okun (Editor)
12. The Green Screen Handbook: Real-World Production Techniques by Jeff Foster
    (Author)

MAV:303 - CG Visual Effects

UNIT-1

VFX: Converting images from 2D to 3D. Differentiation 2D effects and 3D effects. Visual Effects- Description- Types- Particles – Analysis- Size- Sand Effects –Smoke Effects- Fire Effects – Cloud Effects – Snow Effects. designing Clouds Background – Designing Fog Effects –Explosion Effects– Fire Effects with flames - Space Effects and designs- Designing, Thick Smoke Designing, Paint Effects.

UNIT-2

Designing Glass image –Designing Different glass reflection- Designing Glow Effects – Liquid Effects and reflection design Designing Special Effects Visual Effects Tool and advanced functions–Pictures. Matte painting, Designing Trees and green effects –Designing Weather and seasons –Effects on seasons.

UNIT-3

Compositing Techniques : Introduction to advanced 2D animation compositing and Ink paint techniques. Creating color models as per the model sheets. Creating color pallets as required paint and ink fields. Understand the dope sheets / X- sheets in production l evel. Arranging and adjusting the layers as per X- sheet. Advanced panning of camera and background, multiple cameras for showing depth in-between background, over lay and

character layers. Introduction to compositing special effects into a scene using 3d graphics and 3d special effects in 2d layers. Concepts for Broadcast animation for logos, channel IDs and montages. Multi-Layer Compositing, Special Effects, Superimposition and Titling. Exporting various file format outputs as per the end user requirements.

UNIT-4

Post production. Post-production, Video editing (re)recording, and editing the soundtrack. SFX Sound design, Sound effects, ADR, Foley and Music, Transfer of Color motion picture film to Video or DPX with a telecine and color grading (correction) in a color suite. Titles, Credits, and Combining Picture with Sound. Exporting to different platforms.

References:

1. The Art and Science of Digital Compositing, Second Edition: Techniques for Visual Effects, Animation and Motion Graphics (The Morgan Kaufmann Series in Computer Graphics) by Ron Brinkmann (Author)
2. The Digital Matte Painting Handbook by David B. Mattingly (Author)
3. The VES Handbook of Visual Effects: Industry Standard VFX Practices and Procedures by Susan Zwerman (Editor), Jeffrey A. Okun (Editor)
4. The Green Screen Handbook: Real-World Production Techniques by Jeff Foster (Author)

MAV:304 - Advanced Editing & Compositing

Software used: Adobe After Effects, Nuke, Mocha, Adobe Premier Pro

Practical 01	Advanced compositing techniques using After Effects
Practical 02	Color Corrections using third party plug-ins
Practical 03	Advance Motion tracking & stabilizing using Mocha
Practical 04	3D composition & layer Management
Practical 05	Advanced particle systems using third party plug-ins
Practical 06	Node based compositing techniques using Nuke
Practical 07	Advanced 3D composition using Nuke
Practical 08	Advanced editing using Premier Pro
Practical 09	Advanced color correction using third party plug-ins
Practical 10	Text effects for motion graphics
Practical 11	Types of rendering

MAV:305 - Advanced 3D Effects (Fluids, Particles, Smoke, Flame, Jelly Subs, Disintegration)

Softwares used: MAYA / Blender

Practical 01	Soft and Rigid Body collisions
Practical 02	Dynamic Fracture/Disintegration Simulation
Practical 03	Firecracker Animation

Practical 04	Rocket/ Missile thrust animation
Practical 05	Rocket/Missile thrust animation
Practical 06	Realistic Fire simulation
Practical 07	Finite element animation
Practical 08	Tornado destruction animation
Practical 09	Fluid/Jelly Simulation
Practical 10	Underwater Simulation/Dynamic Ocean interacting with Object

Optional Elective

MAV:306 - Character FX (CFX)

Softwares used: MAYA / Blender

Practical 01	Female Cloth Simulation (Cloth Modeling)
Practical 02	Female Cloth Simulation (Physics Simulation)
Practical 03	Female Cloth Simulation (Point cache, Baking and Exporting vertex Animation)
Practical 04	Female Cloth Simulation (Adding Bounding volume, Cloth material and Final O/P)
Practical 05	Realistic hairstyles (Create hair on models & Style hair curves)
Practical 06	Realistic hairstyles (Modify hair and Nucleus node attributes)
Practical 07	Realistic hairstyles (Set up hair shading/shadowing)
Practical 08	Fur Effects on Animal (Create and attach fur to models & modify fur attributes)
Practical 09	Fur Effects on Animal (Add movement to fur & fur shading effects)
Practical 10	Fur Effects on Animal (Refine settings & Render the scene)

MAV:307 – 3D Simulations

Practical 01	Soft and Rigit Body Simulation
Practical 02	Jiggle animation
Practical 03	Simulating Sparks
Practical 04	3d Disintegration/Shattering effects- Primary and Secondary Particles Creation and Disintegration
Practical 05	3d Disintegration/Shattering effects-Smoke Simulation and Rendering
Practical 06	Creating Ocean and waves
Practical 07	3d Foliages
Practical 08	Candle flame Simulation
Practical 09	Creating Fire blast Simulation-Configuring Container and emitter properties
Practical 10	Creating Fire blast Simulation-Working on shading and color
Practical 11	Creating Fire blast Simulation-Creating Debris
Practical 12	Creating Fire blast Simulation- Simulation and Rendering

SEMESTER IV

MAV:401 - Crowd Simulation

Softwares used: MAYA / Blender

Practical 01	Character Setup for Crowd
Practical 02	Character Setup for Crowd
Practical 03	Character Animation
Practical 04	Character Animation
Practical 05	Ragdoll simulation
Practical 06	Ragdoll simulation
Practical 07	Crowd Artificial intelligence (AI)
Practical 08	Crowd Artificial intelligence (AI)
Practical 09	Build Airport/Stadium/Street/crowd
Practical 10	Build Airport/Stadium/Street/crowd

MAV:402 - 3D Creature Animation

Softwares used: MAYA / Blender

Practical 01	Quadruped Walk cycle- Stationary walk-Planning and Blocking Pass
Practical 02	Quadruped Walk cycle- Stationary walk Polish and finish pass
Practical 03	Animate Ogre, integrating with live BG plate-Planning, Shooting for Match move
Practical 04	Animate Ogre, integrating with live BG plate- Camera tracking & Animation Layout pass
Practical 05	Animate Ogre, integrating with live BG plate-Blocking pass
Practical 06	Animate Ogre, integrating with live BG plate-Max Block pass
Practical 07	Animate Ogre, integrating with live BG plate-Polish and Finish Pass
Practical 08	Flying Creature Animation-Blocking pass
Practical 09	Flying Creature Animation Cycle-Max Block pass
Practical 10	Flying Creature Animation Cycle-Polish and Finish Pass

MAV:403 - Sound Effects & Editing

Softwares Used: Adobe Audition, Sonic Sound Forge

Practical 01	Introduction to Sound
Practical 02	Difference between stereo & mono
Practical 03	Sound editing for different sequences
Practical 04	Voice and BG mixing
Practical 05	Sound equalizer
Practical 06	Video & Audio Mixing

Practical 07	Introduction to Foley Lab
Practical 08	Re-recording
Practical 09	Sound Design
Practical 10	Sound Effects

OPEN ELECTIVE FOR OTHER DEPARTMENTS

Introduction to Photography (Semester II)

UNIT: I

Photography Basics, Brief history of Photography, To learn Properties of photograph Resolution, Aspect ratio, Formats eg:- jpeg, png, tiff, targa and gif, Difference between film and digital, Photography as art, Some important photographers and their theories, When photography was added in fine arts, Types of cameras.

UNIT: II

Fundamentals of Photography, Types of photography:- Candid photography, Low light photography, Object and Product Photography. Composition rules, Techniques of Photography- camera, Types of professional lights.

UNIT: III

Digital Photography - Camera, Deleting, Chips, depending upon ME (Mega Bytes), What are pixels, Types of pixels, How to take pictures in a camera, Storing and deleting Outdoor Photography: Use of different lenses, Nature photography, Portrait and landscape Exposure. Handling a professional still camera: How to manage setting in different situations, ISO, Shutter speed, Aperture, White balance.

UNIT: IV

Studio photography: How to use green screen, Background selection, Lighting
Indoor Photography: How to do camera settings in indoor area, How to create depth of field in indoor space.
Photo manipulation with Photoshop: Adjustment settings in Photoshop, How to create HDR (High Dynamic Range) photo, Cleanup of images, Image compositing, Matte painting.

Assignments:

1. Take photograph using film and digital camera to show the difference between film and digital.
2. Prepare one chart to show how photography from science came to art and finally to fine arts.
3. Make one presentation on Types of cameras
4. Product photography
5. Arrange few odd number of products to explain Composition rules.

6. Create three point lighting for taking a portrait photography
7. Use a 50mm lens and write description about how it is helpful In taking photographs in low lighting conditions.
8. Portrait and landscape photographs
9. Nature Photography
10. Candid Photography.

Digital Graphics Tools & Techniques (Semester III)

Software's and Tools: Adobe Photoshop , Corel DRAW

Photoshop	
Practicals 1	Simple text effects
Practicals 2	Image restoration
Practicals 3	Image manipulation in Photoshop
Practicals 4	Movie poster concept
Practicals 5	Creating story board
Practicals 6	Digital scenery creation
Practicals 7	UI Design, smart objects, actions, batch
Practicals 8	Creating website layout
Practicals 9	Set extension in Photoshop
Practicals 10	Digital Matte painting
Corel draw	
Practicals 11	Symbols, Icons in Corel draw
Practicals 12	Business Card
Practicals 14	Logo/Identity design
Practicals 15	Creating Graphs
Practicals 16	Brochure design
Practicals 17	Product packaging design
Practicals 18	Infographics

Additional Reference Books:

1. Storyboards: Motion in Art, Mark Simon, 2000, Focal Press, ISBN: 0-240-80329-9
2. Mastering Maya 2009, Sybex , ISBN-13: 978-0470128459
3. The art of Rigging, Alias Conductors program | CG Toolkit, Vol. 1, 2, and 3, 2005
4. Rick Parent. Computer Animation: Algorithms and Techniques. Morgan Kaufmann, 2005, ISBN 1-55860-579-7
5. Kyle Clark. Inspired 3D character animation. Premier Press, 2003, ISBN 1-931841-48- 9
6. Mark R. Wilkins, Chris Kazmier. MEL Scripting for Maya Animators, Second Edition (The Morgan Kaufmann Series in Computer Graphics) (Paperback), 2005, ISBN 0-12- 088793-2
7. David Gould. Complete Maya Programming: An Extensive Guide to MEL and C++ API (The Morgan Kaufmann Series in Computer Graphics) (Paperback), 2003, ISBN 1- 55860-835-4
8. Chris Webster. Animation. The Mechanics of Motion. Focal Press, 2005, ISBN 0 240 51666 4
9. Richard Williams. The Animator's Survival Kit. Faber and Faber, London-New York, 2001, ISBN 0 571 20228 4
10. Alberto Menache. Understanding Motion Capture for Computer Animation and Video Games (Paperback). Academic Press, 2000, ISBN 0-12-490630-3 Ms Animation Centre For Information And Technology Page 36
11. Matt Liverman. The Animator's Motion Capture Guide: Organizing, Managing, Editing (Paperback). Charles River Media, Inc., 2004, ISBN 1-58450-291-6
12. Eadweard Muybridge. Animals in motion. Dover Pictorial Archive Series, 1957, ISBN 0 486 20203 8 13. Eadweard Muybridge. The Human Figure in motion. Dover Pictorial Archive Series, 1951, ISBN
13. Catherine Winder, Zahra Dowlatabadi. Producing Animation. Focal Press Visual Effects and Animation (Paperback), 2001, ISBN 0-240-80412-0
14. Brad Clark, John Hood, Joe Harkins. 3D Advanced Rigging and Deformations. Thomson Course Technology, 2005, ISBN 1-59200-116-5

Journals:

1. ACM Transactions on Graphics, ACM
2. Computer Animation and Virtual Worlds, John Wiley & Sons
3. Computer Graphics Forum, Blackwell Publishing
4. IEEE Computer Graphics and Applications, IEEE
5. The Visual Computer, Springer-Verlag
6. Journal of Visualization and Computer Animation, John Wiley & Sons
7. Animation: An Interdisciplinary Journal, SAGE Publications

Web Resources:

1. The ACM Digital Library (http://portal.acm.org/dl.cfm)
2. IEEE Xplore (http://ieeexplore.ieee.org/Xplore/guesthome.jsp)
3. Animation Arena (http://www.animationarena.com/)
4. The Animation Guild, Local 839 IATSE and The American Animation Institute (http://www.mpsc839.org/_Home/home_FRM1.html)
5. The Animation Magazine: the business, technology, and art of animation (http://www.animationmagazine.net/)
6. Animation Journal (refereed) (http://www.animationjournal.com/)
7. Highend3D (http://www.highend3D.com/)
8. Fry, Ben and Casey Reas. “Processing”, http://processing.org
9. Hodgin, Robert. “Flight404”, http://www.flight404.com
10. Prudence, Paul. “Data is Nature”, http://www.dataisnature.com
11. Side Effects Software. “Houdini”, http://www.sidefx.com
12. Universal Everything. “Advanced Beauty”, http://advancedbeauty.org
13. Watz, Marius. “Generator.x”, http://www.generatorx.no

- A final project will act as a basis for the award of the degree.

UNIVERSITY OF MYSORE

REGULATIONS & SYLLABUS

For

PG Diploma in Wellness Science

(Choice based Credit System)

Effective from the Academic Year 2018-19

Mysore Central Academy of Arts & Multimedia

Unit of Delta Foundation (R)

CA-10, 16th Main, 5th Cross, Saraswathipuram, Mysore- 570009

0821-2526999/ 7259996006

Annexure 1

Specialized Program of University of Mysore

Credit pattern 2017 – 18

P G Diploma in Health and Wellness Studies

Mysore Central Academy of Arts & Multimedia,

CA-10,16th Main, 5th Cross, Saraswathipuram, Mysore 570009

Regulations

The credit pattern of PG Diploma in Health and Wellness Studies is similar to the university's choice-based credit system. However, the syllabus does not have soft core and open elective papers. All subjects are mandatory. The total credit for the course is same as that of PG programs of the university.

Following are the minimum and maximum credits per semester

The credit pattern is Lecture (L), Tutorial (T), Practical (P): LTP pattern

Lecture – One hour of theory class per week in a semester is 1 credit

Tutorial & Practical – Two-hour sessions per week is 1 credit

One semester period – 16 weeks of teaching & learning

Duration of Semester – 20 weeks that include semester & examination

- A candidate can enroll for 20 credits per semester
- A candidate has to earn 40 credits for successful completion of post graduate diploma

Continuous Assessment Pattern

Continuous Assessment	Time Duration	Marks		Minimum of 30% and aggregate of 40% to declare pass
		Max	Min	
C1	1week to 8 weeks	15	4.5	
C2	9weeks to 16weeks	15	4.5	
C3	Complete 16 weeks	70	21	

Eligibility for Admission

- Any Degree in Life sciences from a recognized university including any medical and paramedical degree.
- Students of Foreign National degree will apply through equivalent committee.
- Minimum percentage of marks is prescribed by the University of Mysore.

Annexure 2

Specialized Program of University of Mysore

PG Diploma in Health and Wellness Studies
Mysore Central Academy of Arts & Multimedia,
CA-10,16th Main, 5th Cross, Saraswathipuram, Mysore 570009

Syllabus

The credit pattern is Lecture (L), Tutorial (T), Practical (P): LTP pattern

Lecture – One hour of theory class per week in a semester is 1 credit

Tutorial & Practical – Two-hour sessions per week is 1 credit

One semester period – 16 weeks of teaching & learning

Duration of Semester –20 weeks that include semester & examination

- A candidate can enroll for 20 credits per semester
- A candidate has to earn 40 credits for successful completion of post graduate diploma

Credit Distribution

Semester 1 (20 Credits)

Sl No	Paper Title	Credits L T P	Total Credits
1	Basics of Biochemistry & Physiology	4	4
2	Immunology & Health	4	4
3	Nutrition in Health & Disease	4	4
4	Practical: Introduction to analytical measurements & case study analysis	8	8
	Total Credit		20

Semester 2 (20 credits)

Sl No	Paper Title	Credits L T P	Total Credits
1	Food Safety & Hygiene	4	4
2	Diagnostic Reasoning of Lifestyle Diseases	4	4
3	Health Service Management	4	4
4	Internship & Dissertation	8	8
	Total Credit		20

Semester 1 Detailed modules

Paper I

Basics of Biochemistry & Physiology: (Credits 4) 64 hours

a. Biomolecules: carbohydrates, proteins, lipids, nucleic acids, minerals and vitamins.
b. Properties of water and its metabolism. Role of Hormones. 12 hours
c. Metabolism:
   Glycolysis, Gluconeogenesis, Electron transport system, fatty acid oxidation and degradation of proteins. Carbohydrate metabolism, Amino acid metabolism and Lipid metabolism. 10 hours
d. Methylation-
   Various types of methylation, nutrients in methylation, role of methylation in health & disease 20 hours
e. Human cells and its significance- 4 hours
   Intracellular organelles, functions, role in health & disease
f. Anatomy, physiology & mechanism of heart; congenital & acquired heart disease 6 hours
g. Cancer-epidemiology, cell division & anomalies, lifestyle and abnormal cell division 12 hours

Total – 64 hours

Paper II

Immunology & Health: (Credits 4) 64 hours

a. Basics in human immunity-
b. Immunity differentiation during prenatal & natal stage, Cellular Immunity, humoral Immunity, passive-active immunity, auto immunity, specialized immune cells, Immune organs of human body- 20 hours
c. Immunity in health, reactions of immune system to foreign objects and antigens, Generation of antibody diversity, Hypersensitivities- 12 hours
d. Immunoglobulins-structure and functions, Hereditary & Acquired Immune diseases, Immunological techniques, application in medicine (vaccines, immunotherapy, immunoassays and immunodiagnostics). Immunotherapy- 16 hours
e. Environment & Immunity-
   Environmental pollution- Air, Water, Food, General pollutants, specific pollutants, heavy metals. Role of pollutants in health & disease. Radiation hazards in health- 16 hours

Total- 64 hours

Paper III

Nutrition in Health & Disease: (Credits 4) 64 hours

Food assimilation and nutrition 4 hours

a. Vitamins, Minerals, Antioxidants in Cellular mechanism 12 hours
b. Nutritional Mineral balancing –macro & micronutrients 10 hours
c. Deficiency diseases –reasoning & basic assessment 8 hours
d. Consequences and nutritional management of poor digestion, mental health 8 hours
e. Dietary supplements in disease management; Nutrient Blockades & anti nutrients 10 hours
f. Health & Stress in modern life. Role of nutrition in stress 12 hours

Total – 64 hours

Practical: (Credits 8 – 16 hours/week)

a. Introduction of various detoxification procedures
b. Preparation of solutions- procedure
c. Mixing of various nutritional and detoxification mixtures
d. Hypothetical formulation of various nutritional supplements
e. Advice on detoxification, oxygen therapy, yoga and exercise
f. Hypothetical case study analysis- of different Non-communicable lifestyle diseases and communicable lifestyle diseases
g. Hypothetical case study analysis of biochemical, nutritional, hormonal and psychological parameters

Books & References

1. Harpers Biochemistry- 30th edition

2. Textbook of Medical Biochemistry- Rana Shinde, M N Chatterjea

3. Biochemistry- Satyanarayan

4. Essentials of Biochemistry- R C Gupta

5. Fundamentals of Biochemistry- Ambika Shanmugham

6. Cancer Free- Jenny Hrbeck

7. DNA Methylation & Cancer Therapy- Szyf, Moshe

8.The Vitamin Cure for Diabetes- Prof. Ian Brighthope

9.Diabetes & Cardiovascular Disease- Maro Stern

10. Bio Nutrition- Dr Ray D Strand

11. Clinical Guide to Nutrition & Dietary Supplement- Jamison

12. Textbook of Human Nutrition- Mahtab S Baniji, N Prahlad Rao

13. Vitamin Guide- Tasha Jenny

14. Know your enemy- The Cancer- Eval L Green

15. Methylation Diet & Lifestyle- Kara Fitzgerald

16. Methyl Magic- Maximum Health through Methylation- Craig Cooney

17. Immune Modulating Agent- Thomas S Kresina

18. Handbook of Nutrition & Immunity- M Eric Gershwin, Penelope Nestel, Carl L Keen

Semester 2 detailed modules

Paper I

Food Safety & Hygiene: (4 credits) 64 hours

a. General principles of food, combinations and different types of diets 10 hours

b. Food source, impact of various techniques of cultivation on food quality 10 hours

c. Food toxicity & adulteration 4 hours

d. Food safety & regulation 6 hours

e. Digestive system, anatomy, physiology and processes 12 hours

f. Enzymes in digestion and its role in health 12 hours

g. Intestinal flora, probiotic food & supplements and microbiome 10 hours

Total- 64 hours

Paper II

Diagnostic Reasoning of Lifestyle Diseases: (4 credits) 64 hour

a. Diabetes 14 hours

i. Pancreas & its mechanism & function, Metabolic syndrome and epidemiological factors, mechanism of diabetes, cause, lifestyle factors

ii. Assessment & management of diabetes. Various complications and its cellular approach

b. Cardiovascular Health 14 hours

i. Role of lifestyle in Heart Disease, Vascular Disease, Cholesterol,

ii. Lifestyle factors involved in the disease process

c. Cancer 14 hours

i. Role of lifestyle in cancer

Ii Complications & management of cancer,

iii. Preventive measures

d. Musculoskeletal disorders 12 hours

i. Cellular function of muscular and skeletal cells, fibromyalgia- causes, features, prevention and lifestyle management

ii. Bone anomalies, inflammation, osteoporosis, causes and lifestyle management

iii. Inflammatory disorders of muscles and bones, modern lifestyle causative factors, prevention and management

e. Auto Immune disorders and lifestyle management- 10 hours

Total- 64 hours

Paper III

Health Services Management: (4 credits) 64 hours

a. Work place health & wellness 8 hours

b. Different health care systems, public health 8 hours

c. Services relating to health care-overview of Health Care Systems (private and public sectors), interface between Public Health and Health Care System, various health care delivery structures, health care workforce, health care resources, types of health services, financing of health services and health care coverage, meeting the health care needs of special populations, and critical issues in health services. Primary health care; Critical health care; Geriatric health care; Occupational health care; School health care, First aid management. 20 hours

d. Integrated health care,

Tele-health care, its role in prevention, treatment, Recovery & healing, improving health in speedy life. 10 hours

e. Science behind nutrition, yoga, music, meditation etc.- 10 hours

f. Wellness promotion & re-establishing the foundation for health 8 hours

Total – 64 hours

Internship and Dissertation: (8 credits) 3 Months

Each student must do a project. The project is to be done individually. The project work should be course related and done in hospitals or health service industries under the supervision of a guide. The report of the project in duplicate is to be submitted to the department and are to be produced before external examiners appointed by the university for valuation.

Books & References

1. Text Book of Preventive & Social Medicine – J E Park
2. Sapiens – A Brief History of Mankind – Jared Diaman
3. Introduction to Genomics – Arthur Lesk
4. Epigenetics in Human Disease – Trygue Tollefsbol
5. The Epigenetic Revolution – Nessa Carey
6. Good Health in 21st Century – Dr. Carole Hungerford
7. You Your Hormones – Dr. Peter Baratosy
8. Microbiome Diet – Raphael Kellman MD
9. Positive Aging & Antiaging Companion – Prof. Andrew Charls
10. "Environment Health – Emerging Issues & Practice" – Jacques Oosthuizen
11. Heavy Metals & Human Health – Simon Morais
12. Fighting Body Pollution – Paul Krammer
13. Advanced Nutrition Therapy – Dr. Kennet Cooper
14. Food that Heal – Dr. Bernard Jensen
15. The Decade of Autoimmunity – Yahuda Shoenfeld
16. Understanding Nanomedicine – Introductory text book – Rob Burgers

Annexure - 3

List of Examiners for

PG diploma in Health and Wellness studies

SL. No.	Names	Address
1.	Prof. B.S. Vishwanath	Department of Studies in Biochemistry, Uni. of Mysore, Manasagangotri, Mysuru
2.	Prof. K. Kemparaju	
3.	Dr. Gopal Marathe	
4.	Dr. H.S. Aparna	Department of Studies in Biotechnology, Uni. of Mysore, Manasagangotri, Mysuru
5.	Dr. K.R. Kini	
6.	Dr. Geetha N.	
7.	Dr. S. Umesha	
8.	Dr. Asna Urooj	Department of Studies in Food Science and Nutrition Uni. of Mysore, Manasagangotri, Mysuru
9.	Dr. Komala M	
11.	Dr. Malini S.S.	Department of Studies in Zoology Uni. of Mysore, Manasagangotri, Mysuru
12.	Dr. Bhaskaran V.	Department of Biochemistry, CFTRI, Mysore
13.	Dr. R.P. Singh	
14.	Dr. Balaji Prakash	Department of Molecular Nutrition, CFTRI, Mysore
15.	Dr. C.D. Nandini	
16.	Prof. Ravishankar Rai	Department of Studies in Microbiology, Uni. of Mysore, Manasagangotri, Mysuru
17.	Dr. Shekara Naik R.	Dept. of Food and Nutrition, Yuvaraja's College, Mysore

Faculty

Dr. Sreekumar .A- MBBS, DLO, FACNEM, FINEM, FSAARNAMM

Dr. Karl Kamal- MBBS, FACNEM- New Zealand

Dr Suraja Harilal- MBBS, MS, FINEM- Trichur

Dr Renu Mahtani- MBBS, MD, FINEM- Pune

Dr Pallavi Chobe- BAMS- Bangalore

Dr Sujit Nair- BNYS, MD- Kochi

Dr Leroy Rebello- PhD, DD- Hyderabad

Dr Lenny Da Costa- MBBS, DGM, CMT(USA), MCCP, MSAMS- Mumbai

Dr Bhimayya- MBBS,MD- Mysore

Prof. Dr . Ian Brighthope- MBBS, MD, FACNEM, Australia

BOE members for PG Diploma in Wellness Science:

Prof. Vishwanath B.S

Dr. Sreekumar A

Dr. Karl Kamal

Dr. Renu Mahtani

Dr. Suraja Harilal

Feb 14, 2018.
Ver 10.

Asian Institute of Gaming and Animation

BFA in Digital Art and Animation

(4 years / 8 semesters)

OFFERED UNDER THE STATUTE OF

"SPECIALIZED PROGRAM"

BY THE **UNIVERSITY OF MYSORE**

BFA – Digital Art and Animation

A four year comprehensive program for digital art and animation aspirants.

Program overview

The AIGA BFA in Digital Art and Animation is segmented into semesters.

The course has 8 semesters to explore the basics and advanced concepts in Fine Art, 3D modeling, Animation, Art Theory and Art History. Students are also exposed to working in teams, developing concepts and executing projects.

Students who complete the course successfully should be able to create 3D models of both hard surface props as well as human characters from concept art. They would also acquire skill to set up and create animations for the props created.

Apart from the core subjects, students also gain proficiency in the English Language and develop skills for personal and professional communication both written and spoken.

The course is further enhanced with workshops conducted by industry experts in peripheral subjects such as game and graphics technologies.

A fundamental goal is to train students for the industry both in terms of skill and also the discipline required to function well in a team, work with clients, work under leadership and respect deadlines.

An additional motivation of the course is to instill skill and confidence in students with an entrepreneurial spirit to start and setup studios of their own.

Course Title : **BFA – Digital Art And Animation.**

Course duration : 4 years

Term type : semester. 8 semesters in total

Primary Focus : Digital Art and Digital animation

- Creating digital art assets for games, movies, interactive software and print media.
- Creating animations for games, movies, interactive software.

Secondary Focus : English communication skills

: Understanding of the history of art and design.

: Develop fine art skills.

Language of Instruction : English

Eligibility for Admission: A candidate whose age is above 17 years is eligible to apply provided.

- Successful completion of 12th Standard or PUC or
- Successful completion of Three years Diploma from a State Board of Technical Education after 10th, successful completion of Three years Diploma from any institution in Drawing /Animation/ related fields after 10th.

The intake shall be as approved by the University from time to time.

Degrees and Diplomas awarded.

Both the Diploma and Degree are awarded by the University of Mysore

(Degree) BFA Digital Art and Animation :

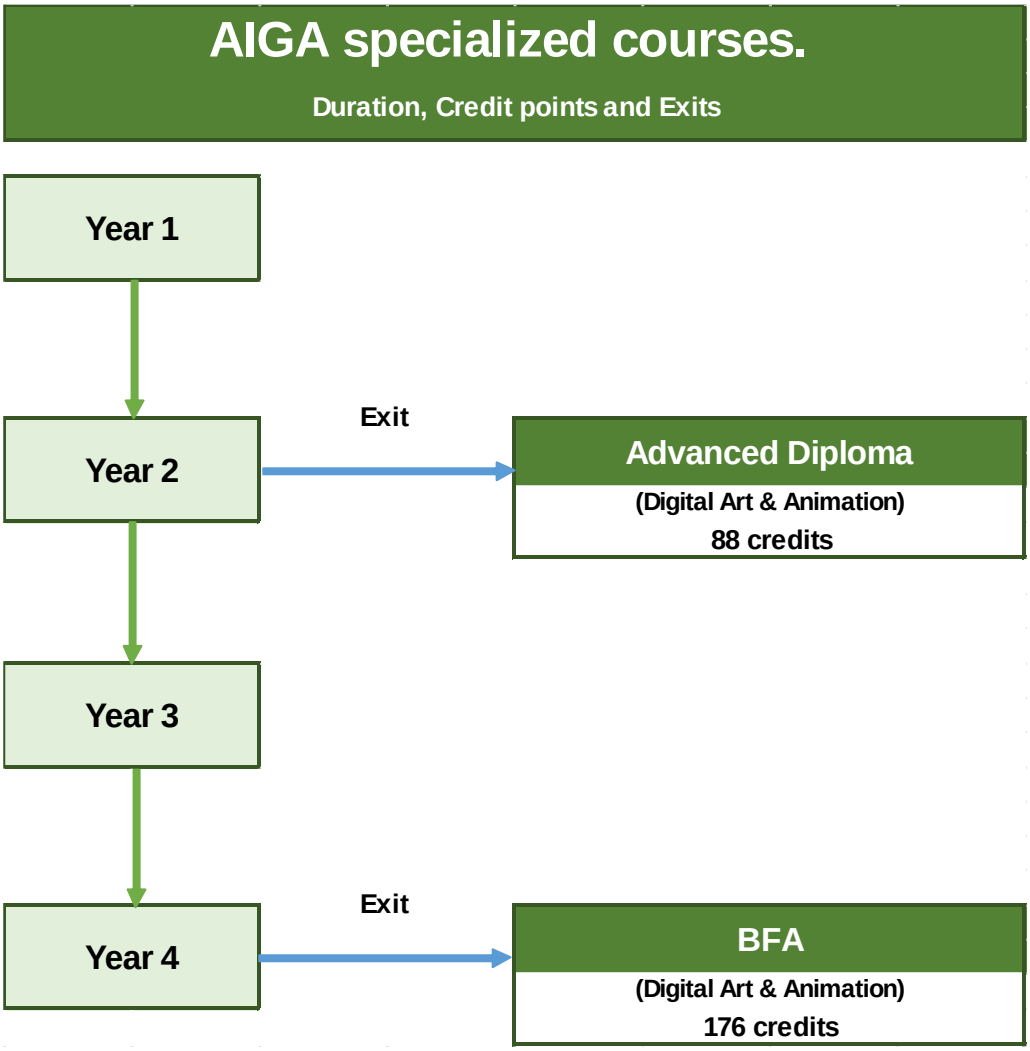
At exit on completion of 8 semesters – 4 year duration of 176 credits.

(Diploma) Advanced Diploma in Digital Art and Animation :

At exit on completion of 4 semesters – 2 year duration of 88 credits.

BFA : re-entry criteria

A student can exit with an AIGA Advanced Diploma in Digital Art and Animation and re-enter the BFA program at a future time within 25 months of completion of the Advanced Diploma in Digital Art and Animation course.


AIGA specialized courses.
Duration, Credit points and Exits
Year 1
Year 2
Exit
Advanced Diploma
(Digital Art & Animation)
88 credits
Year 3
Year 4
Exit
BFA
(Digital Art & Animation)
176 credits

Course Structure :

Semester Content

- In the first semester there shall be 7 papers viz.3 Major papers(**Digital modeling in 3D, 2D Digital Art and Hard Surface Modeling I**) and 2 Supporting Languages papers **(English-I & French– I)** and 1 General paper (**Fine Art I**) and one common paper **(Computer fundamentals**)

- In Second semester there shall be 8 papers viz. 4 Major papers(**Hard Surface Modeling II, Texture And Environment Creation, Maya For Animation, Principles of Animation**), 2 Supporting language papers (**English-II & French –II**) & 1 General paper(**Fine Art II**) and one common paper (**Environmental studies**)

- In third semester there shall be 7 papers viz. 3 Major papers (**High Detail Sculpting I, 3D Environment I and Animation II**), 2 Supporting Language papers **(English-III & French –III)** and 2 General papers (**Fine Art III, Art History & Design I**)

- In fourth semester there shall be 7 papers viz., 2 Major papers(**Organic Modeling I, Acting for Animation**), 2 Supporting Language papers **(English-IV & French –IV),** 2 general papers (**Art History & Design II, Fine Art IV**) and 1 common paper (**Indian constitution**)

- In fifth semester there shall be 5 papers viz.,3 Major papers(**Hard Surface Modeling III, 3D Environments II, Animation Breakdown**) and 2 general papers (**Art History & Design III, Fine Art V**)

- In sixth semester there shall be 5 papers viz., 3 Major papers (**3D Environments III, Rigging and Skinning I, Rigging and Skinning II**) and 2 general papers (**Art History & Design IV, Fine Art VI**)

- In seventh semester there shall be 4 papers viz., 3 Major papers (**Organic Modeling II, Rigging and Skinning III, Planning to polish**) and 1 general paper (**Art History & Design V**)

- In eighth semester there shall be 2 papers viz., 2 Major papers (**Game Engine I & project: Animation Short Clip**).

Specialized Program

The AIGA BFA in Digital Art and Animation is an 8 semester course majoring in Digital Art and Animation with Design and Development with English and Additional English as supporting languages, Constitution and democracy and Environmental studies as common papers and Art Theory and history and Fine Art as general papers.

A candidate gets awarded with the BFA degree if he/she earns 176 credits in 8 semesters. Furthermore and he/she can exercise the option to exit with an Advanced Diploma in Digital Art and Animation by earning 88 credits as stipulated for the first four semesters of the BFA program.

Credit Based Teaching- Learning Mechanism

Definition

Course: Every course offered will have three components associated with the teaching-learning process of the course namely:

Lecture – **L** (ii) Tutorial – **T** (iii) Practical – **P**, where

L stands for Lecture Session

T stands for tutorial session consisting of participatory discussion /self-study / desk work / brief seminar presentation by students and such other novel methods that make student absorb and assimilate more effectively the contents delivered in the Lecture classes.

P stands for Practice session and it consists of Hands on experience / Laboratory experiments / Field studies / Case studies / Intensive practice exercises that equip students to acquire the much required skill component.

A paper in a semester is completed in a span of 16 weeks.

Credits :

L : 16 hours of lecture amount to 1 credit for a paper.

T : 32 hours of tutorials amount to 1 credit for a paper.

P : 32 hours of practicals amount to 1 credit for a paper.

A paper shall have either or all the three components. That means a paper may have only a lecture component or only a practical component or combination or any two all the three components.

The total credits earned by a student at the end of the semester upon successfully completing the course is L+T+P. The credit pattern of the course is indicated as:

L:T:P

If a course is of 4 credits he different credit distribution patterns in

L : T : P format could be

4 : 0 : 0		1 : 2 : 1	1 : 1 : 2	1 : 0 : 3	1 : 3 : 0
2 : 1 : 1		2 : 2 : 0	2 : 0 : 2	3 : 1 : 0	3 : 0 : 1
0 : 2 : 2		0 : 4 : 0	0 : 0 : 4	0 : 1 : 3	0 : 3 : 1

Scheme of Instruction

Semester I							
	Type	Title	credits	L	T	P	Total credits
1	major 1	Digital modeling in 3D	4	1	0	3	22
2		2D Digital Art	3	1	0	2	
3		Hard Surface Modeling I	4	1	0	3	
4	general	Fine Art I	3	0	0	3	
5	language 1	English I	3	3	0	0	
6	French	French – I	3	3	0	0	
7	common	Computer fundamentals	2	2	0	0	

Semester II							
	Type	Title	credits	L	T	P	Total credits
1	major 1	Hard Surface Modeling II	3	1	0	2	22
2		Texture And Environment Creation	4	2	0	2	
3	major 2	Tools for Animation	2	1	0	1	
4		Animation I	3	1	0	2	
5	general	Fine Art II	2	0	0	2	
6	language 1	English II	3	3	0	0	
7	French	French – II	3	3	0	0	
8	common	Environmental Studies	2	2	0	0	

Semester III							
	Type	Title	credits	L	T	P	Total credits
1	major 1	**High Detail Sculpting I**	**5**	2	0	3	**22**
2		**3D Environment I**	**2**	1	0	1	
3	major 2	**Animation II**	**5**	2	0	3	
4	general	**Fine Art III**	**2**	0	0	2	
5		**Art History & Design I**	**2**	2	0	0	
6	language 1	**English III**	**3**	3	0	0	
7	French	**French – III**	**3**	3	0	0	

Semester IV							
	Type	Title	credits	L	T	P	Total credits
1	major 1	**Organic Modeling I**	**4**	1	0	3	**22**
2	major 2	**Animation III**	**6**	2	0	4	
3	general	**Art History & Design II**	**2**	2	0	0	
4		**Fine Art IV**	**2**	0	0	2	
5	common	**Indian constitution**	**2**	2	0	0	
6	language 1	**English IV**	**3**	3	0	0	
7	French	**French – IV**	**3**	3	0	0	

Semester V							
	Type	Title	credits	L	T	P	Total credits
1	major 1	**Hard Surface Modeling III**	**5**	1	0	4	**22**
2		**3D Environments II**	**5**	1	0	4	
3	major 2	**Animation IV**	**6**	2	0	4	
4	general	**Art History & Design III**	**3**	3	0	0	
5		**Fine Art V**	**3**	0	0	3	

Semester VI							
	Type	Title	credits	L	T	P	Total credits
1	major 1	**3D Environments III**	**6**	2	0	4	**22**
2	major 2	**Rigging and Skinning I**	**6**	2	0	4	
3		**Rigging and Skinning II**	**6**	2	0	4	
4	general	**Art History & Design IV**	**2**	2	0	0	
5		**Fine Art VI**	**2**	0	0	2	

Semester VII							
	Type	Title	credits	L	T	P	Total credits
1	major 1	**Organic Modeling II**	**7**	2	0	5	**22**
2	major 2	**Rigging and Skinning III**	**7**	2	0	5	
3		**Animation V**	**6**	2	0	4	
4	general	**Art History & Design V**	**2**	2	0	0	

Semester VIII							
	Type	Title	credits	L	T	P	Total credits
1	major 1	**Game Engine I**	**11**	1	0	10	**22**
2	major 2	**Project : Animation Short Clip**	**11**	1	0	10	

Summary

Title	Credits
major 1	63
major 2	58
English	12
French	12
general	25
common	6
total	**176**

Proposed Syllabus

Syllabus Details for BFA in Digital Art and Animation.

Semester 1: Paper 1: Digital Modeling in 3D

Learning Outcomes:	
1	The model needs to be created to real world scale. It needs to match the primary reference image in terms of scale, proportions and shape.
2	Triangle budget for the model is 1500 triangles and 10,000 triangles for the room.

Unit-1: Tools and interface

- Introduction to tools and interface
- Create complex assets using multiple primitive tools like Spline, loft, lathe, etc.
- Understanding and creating Objects using primitive tools and polygon modeling

Unit-2: Digital Modeling Software

- Understanding the tools and interface of the digital modeling software and developing the soft skills to create from a simple to a complex shape 3D model from the provided references.
- Creating a 3D Prop which is a little complex

Unit – 3: 3D space

- Learn 3D space and the usage of primitives such as triangles and quads.
- Create high detail models using the concept of triangle and quads.

Unit – 4:

- Learn the impact of triangle and vertex counts on a model
- Creating a beautiful and accurate model.

Reference Books:

1. Blender 3D For Beginners: Danan Thilakanathan
2. 10 Minute Blender: John Think
3. An Introduction to Computer Graphics for Artists – Andrew Paquette
4. Digital Modeling – William Vaughan

Paper 2: 2D Digital Art

Learning Outcomes:	
1	Understanding of Photoshop functionality and capability as a graphic editing program
2	Knowledge of tools such as brushes, palettes, paths, selections, masks, transforms, layers, filters etc

Unit-1: Clone and healing brushes

- Understanding Clone and healing brushes to restore damaged photographs
- Understanding vectors by using the pen and other shape tools to create 2D art.
- Layers need to be used to separate different elements of the images, such as shadows of an object will be on a different layer.

Unit-2: Concept of lighting on different materials

- Study and understanding different types of materials and their interaction with light.
- Study on Basic Lights and its Properties
- Light-Shadow-Shader Relation
- Understanding “The Physic and Art of Lighting”

Unit- 3: Fundamentals of Tools

- Understanding of tools such as brushes, palettes, paths, selections, masks, transforms, layers, filters etc
- Learn how to use and create custom brushes.
- Understand human facial proportions and how to use colors to create a portrait.
- Unassisted task where animal portraits are to be created. This task is challenging because of the variation in colors and the recreation of animal fur and hair.

Unit – 4: Introduction to Adobe Photoshop.

- To practically educate students on specific tools and functionalities within Photoshop relevant to Digital Art through practical exercises and assignments
- Drawing devices –Exploring Photoshop Environment

Reference Books:

1. The Book of GIMP: Olivier Lecarme
2. 3D Game Textures: Create Professional Game Art Using Photoshop – Luke Ahearn

Paper 3: Module title: Hard Surface Modeling I

Learning Outcomes:	
1	Studying references and Blueprints. Creating Dimension Box and basic model
2	Creating low poly models.
3	UV Mapping and Texturing
4	Understanding how to match cameras to references.

Unit -1: Fundamentals of CG assets creation

- Understanding Elements of Polygon geometry
- Exploring Poly Modelling tools and options
- Discussion on Planning for Modelling
- Basic Tricks and Techniques to develop Professional approach and Cleaning up the scene.

Unit – 2: Surface topology & surface construction techniques

- Model automobile assets
- Model an Exterior Scene
- Techniques of Creating and Editing Curves, Tools and Options

Unit – 3: Poly Distribution and line flow

- Students will learn to collect references for their self-studies, using of alpha maps, understand poly distribution and line-flow, and also how to match cameras to references for accuracy.
- Analysis and Classifying Polygon Models by Technical and Aesthetical manner.
- Guidelines for Game Assets Modelling

Unit – 4: UV mapping and texturing

- Understanding UV mapping
- Techniques of UV unwrapping, Tools and options
- Working in UV texture Editor
- UV unwrapping objects of a scene and using Photoshop create textures for various Material's attributes like Colour, Transparency, Secularity, Bump, Reflection etc.
- Exploring Basic Maya Render Utility Nodes, Tricks and Techniques in Shader Designing

Reference Books:-

1. 3ds Max Modeling for Games: Insider's Guide to Game Character, Vehicle, and Environment Modeling: 1 : Andrew Gahan
2. Poly-Modeling with 3ds Max: Thinking Outside of the Box : Todd Daniele

Paper 4: Fine Art I

Module Title: Still Life, Color Study, Basics of drawing

Learning Outcomes:	
1	Understanding of reflections, refractions and transparency
2	more applications of proportions, based on perspective
3	Understand color models and their impact on various medium.
4	color harmony, cool and warm colors, color blending
5	Understanding of shapes, proportion, tonal value and light and shade.
6	Freeing of hands to create strokes and lines confidently.
7	Understanding shading according to surfaces.

Unit 1: Still Life

- Understanding the scene and establishing the proportions of different objects in the scene.
- How to frame a scene to create interesting visuals/layout.

Unit 2: Color Study

- To understand primary, secondary and tertiary colors & the differences between pencil, water, poster and oil pastel colors
- Understand the concept of warm & cool colors & its reflection on creating the mood/ambience. Gain exposure to various paper and pigment interactions. Color blending.
- To free their hands, understand pencil tone values, create strokes and lines and understand proportions, lighting and shading.

Unit 3: Basics of Drawing

- To practically educate students on specific tools and technicalities relevant to Traditional art through practical exercises and assignments.
- Understand shading techniques like stippling, hatching, cross-hatching and blending.
- Understand 1, 2, 3-point perspective drawing.

Unit 4 – Shading

- Understand shading of different materials and surfaces
- Composition of simple shapes such as triangles, squares, circles, apples, shoes, chrome flasks etc
- Understanding of shapes, proportion, tonal value and light and shade.

Reference Books:

1. Principles of Color Design: Designing with Electronic Color by Wucius Wong
2. Framed Ink: Drawing and Composition for Visual Storytellers *by Marcos Mateu-Mestre and Jeffrey Katzenberg*

Common Paper

Paper 5: Computer Fundamentals

*(Common with BA, BSc, Bcom etc., as prescribed by the University)

Supporting Language paper

Paper: 6 Subject: English I

Paper 7: Subject: French – I

The syllabus for language I & II will be prescribed by the concerned board of studies

Semester 2: Paper 1: Hard Surface Modeling II

Learning Outcomes:	
1	Ability to model and texture a higher resolution vehicle as per specification for games.
2	Develop a higher level of accuracy and discipline for hard surface modeling.
3	Ability to handle more complex specifications in terms of mesh and texture.
4	Learn to create LODs for vehicle models.
5	camera matching

Unit -1:

- Understanding the technicalities behind setting up of building a vehicle asset
- Improving eye for details and achieve highly accurate surface representation using camera match.
- Understanding of the importance for making the mesh ready for high stage modeling.
- Clean up of mesh and fixing of shading issues on the mesh.
- Building a mid-high interior and snapping it to the exterior body and fixing of pivot points for certain objects. Also UV mapping all the present elements in the scene.
- Texturing the car with registration and applying racing decals
- Learn to create higher resolution vehicle models for games from provided line drawings and photographic references
- Develop a higher level of accuracy and discipline for hard surface modeling. Learn to create vehicle parts and handle more complex specifications.

Reference Books:-

1. 3ds Max Modeling for Games: Volume II: Andrew Gahan
2. Poly-Modeling with 3ds Max: Thinking Outside of the Box : Todd Daniele
3. Blender 3D 2.49 Architecture, Buidlings, and Scenery – Allan Brito
4. Blender 3D Incredible Machines – Christopher Kuhn

Semester 2 : Paper 2: Texture & Environment creation

Learning Outcomes:	
1	Observation skills needed for texturing.
2	The creation of tile able textures and texture pages for games
3	Ability to model and texture a simple realistic environment using color maps.

Unit 1: Fundamentals of Texturing

- Working with Maps and Textures Node (Procedural and file)
- To understand the material and Texture analysis and Techniques for creating tileable textures
- To enhance observation skills needed for texturing & knowledge of texture sizes, depth and resolution as they relate to different gaming systems
- Introduce students to creation of game textures including texture layouts

Unit – 2: Foliage

- Understanding foliage construction for games
- Understanding the creation and usage of Normals, Specular and Gloss Maps.

Reference books:

1. 3D Game Textures: Create Professional Game Art Using Photoshop – Luke Ahearn
2. Texturing: Concepts and Techniques – Dennis Summers
3. Blender 3D 2.49 Architecture, Buildings, and Scenery – Allan Brito

Semester 2: Paper 3: Software tools for Animation

Learning Outcomes:	
1	Understanding of Maya functionality and capability as an animation editing program
2	Knowledge of tools such as graph editor, joint, deformers, blend parenting, constraints. Etc
3	Understand play blast file formats and various render passes, and batch render and their relevance

Unit-1: Introduction to Maya

- To create a human model using basic primitives with the objective of understanding the Maya UI and tools.
- Use of a graph editor and the principles of animation in order to animate a ball bounce both in-place and out-of-place.
- Understand how animation differs based on weight of the object and how to make believable animation.
- To understand specific tools and functionalities within Maya relevant to Animation through practical exercises and assignments.

Unit 2: Introduction of tools

- Knowledge of tools such as graph editor, joint, deformers, blend parenting, constraints. Etc
- Understanding Maya Curves and it's Elements
- Techniques of Creating and Editing Curves, Tools and Options
- Understanding Maya NURBS and its Components
- Techniques of NURBS modelling, Tools and Options
- Working with Surface Modelling
- Basic Tricks and Techniques to develop Professional approach and Cleaning up the scene.
- Discussion on "Detailing and Finishing" in a model
- Model a Product for commercial presentation
- Model automobile assets
- Model an Interior
- Importing and Exporting Polygonal objects and Techniques of assembling a scene
- Model an Exterior Scene

Reference Books:

1. Adam Watkins : Maya A Professional Guide, Published by dreamtech
2. Danish Derakhshevi : Introducing Maya16 3D for Beginners 2016 Wiley Publishing Inc.
3. Tom Meade and Shinsaka Anima : The Complete Reference Maya 2016

Semester 2 : Paper 4: Animation I: Principles of Animation

Learning Outcomes:	
1	Understand basic fundamental Principles of animation
2	How to identify arcs and overlapping actions on humans, creature, and props.
3	Performance Acting with the human like interpretation of props.

Unit 1 – 3D Animation Fundamental

- Discussion on Process of Animation, Concept of Flipbook
- Discussion on different Techniques of Animation Process
- Discussion Basic Animation Principles
- Exploring Maya Tools and Options for Animation
- Understanding Frames, Key Frames and FPS
- Understanding Key Interpolation and In-betweens
- Understanding and Working with Graph Editor and Dope Sheet
- Understanding Timing and Spacing, Ease-in and Ease-out
- Working with Trajectory / Motion Tail
- Create an animation manipulating single attribute
- Create an animation manipulating Multiple Attributes
- Discussing on “The Physics and Art in Animation”

Unit 2 – Performance Acting

- Understanding the influence of weight in animation.
- Understand the blocking process of a ball interaction with a set.
- Helping to reinforce and polish their animation foundation assignments.
- Understand how to balance weight, and dynamics behind Overlapping actions of different objects.
- Understanding how to anthropomorphize a prop.
- Helping the students reinforce and polish their animation foundation assignments.
- Understanding the basic fundamentals of the principles of animation and the concept of observation.
- To understand the arcs and overlapping actions.

Reference Books:

1. The ILLUSION OF LIFE: DISNEY ANIMATION – Frank Thomas
2. Character Animation Crash Course! – Eric Goldberg
3. The Complete Digital Animation Course: The Principles, Practice, and Techniques of Successful Digital Animation – Andy Wyatt

General Papers

Semester 2 : Paper 5: Fine Art II

Unit – 1: Basics of Anatomy Study

- Understanding of Proportion & Structure of human figure
- Understanding skeletal study of human figure
- Understanding Muscle study of human body parts
- Understanding different Muscles and its relationship with each other.

Unit 2 – Life Study

- Understanding proportion, Balance and Line of action
- Understanding Silhouette , solid pose and Human study
- Understanding to Life study drawing

Unit 3 – Portrait Study

- Understanding Proportion and structure of Human head
- Understanding characteristics and Personality of the model
- To develop the understanding of human body structure and the form of each part of Body through practically observing and Drawing it.

Reference Books:

1. Fine Art Vol-1: Pencil Drawings and Shadings by Subrahmanya Hegde
2. A complete course to Sketching and Shading – The Bookmaster

Common Paper

Semester 2 : Paper – 6: Environmental Studies

*(Common with BA, BSc, Bcom etc., as prescribed by the University)

Supporting Language paper

Semester 2 : Paper – 7 Subject: English II

Semester 2 : Paper – 8: Subject: French – II

The syllabus for language I & II will be prescribed by the concerned board of studies

Semester 3 : Paper 1: Module title: High Detail Sculpting I

Learning Outcomes:	
1	Understanding of the concept of high detailed modeling.
2	Contextual experience of the functionality and capability of 3d sculpting software such as Zbrush or Mudbox.
3	The generation of texture maps from high detail models and understanding of their relevance to games.

Unit 1: High detailed Modelling

- Understanding of the concept of high detailed modeling
- Understanding & sculpting hard surface models with its macro level detailing
- Understanding sculpting of an organic creature with its prominent details

Unit 2: Sculpting Inorganic Structure

- Understanding usage of Zbrush and basics of sculpting
- Anatomical Study for Character Modelling and Planning Mesh Flows / Face Loops

Unit 3: Sculpting

- Blocking the Organic Form by Sculpting
- Sculpting medium details and fine details and Retopology
- Unwrapping, Polypainting and Texture Map Extractions

Unit 4: Introduction of Digital Softwares

- Introduction of Digital sculpting software tools like Pixologic Zbrush, Autodesk Mudbox.
- Understand high detail sculpting and techniques relevant to cg art creation.

Reference Books:

1. Zbrush Character creation: Advanced Digital Sculpting
2. Digital Sculpting with Mudbox: Essential tools and techniques for Artists

Semester 3 : Paper 2: Module title: 3D Environment I

Learning Outcomes:	
1	Understanding of the concept modular environment asset creation.
2	Creation and usage of tileable textures
3	Ability to model a simple realistic art style environment

Unit-1: Layout, Planning and Blocking Structure

- Understanding of Layout, Planning and Blocking Structure for creation of modular environment asset creation
- Understand the detailing of modelling structures

Unit 2 – Modular Environment asset creation

- Understand texturing structures, Colour , Normals , Specular, Gloss
- Understand how to model props and unwrapping
- Creating Colour, Normals ,Specular and Gloss

Unit 3 – Texturing Techniques

- To introduce students to various texturing techniques and usages.
- To enhance observational skills to improve eye for detail.

U**nit 4 – Fundamentals of Modular assets**

- To create and exhibit realistic modular 3d environment structures and props aimed for a video/console game specifications.
- Creating a building with Modular assets
- Introduce students to various advanced texturing techniques and usages of modular assets

Reference Books:

1. Poly-Modeling with 3ds Max: Thinking Outside of the Box – Todd Daniele.
2. 3ds Max Speed Modeling for 3D Artists – Thomas O. Mooney
3. Blender 3D 2.49 Architecture, Buidlings, and Scenery – Allan Brito
4. Blender 3D Incredible Machines – Christopher Kuhn

Semester 3: Paper 3: Animation II

Learning Outcomes:	
1	Understand basic fundamentals of Body dynamics
2	How to identify transfer of weight
3	Performance Acting with the help of a rigged character.

Unit-1: 3D Character Animation

- Step-in to Character Animation | Understanding a Character
- Understanding “Pose” and “Gestures”
- Guidelines to Composing a pose
- Discussion on Biomechanics of a character
- Analytical study and Planning on Pose and Timing of biped Locomotion

Unit – 2: Fundamentals of Body Dynamics

- Understanding the blocking of a plain walk and help them polish the walk
- Understand how to balance weight, and to understand the body dynamics behind the jump, push and pull
- Understand the basic fundamentals of Body dynamics, the concept of weight is reinforced.
- Understand the body dynamics at play while doing specific actions, such as simple push and simple jump from point a to b.

Reference Books:

1. The ILLUSION OF LIFE: DISNEY ANIMATION – Frank Thomas
2. Character Animation Crash Course! – Eric Goldberg
3. The Complete Digital Animation Course: The Principles, Practice, and Techniques of Successful Digital Animation – Andy Wyatt

Semester 3: Paper 4: Fine Art III

Learning Outcomes:	
1	An indepth study of the perspective, proportional drawing for vehicles & props
2	An architecture model based on different genres of the game

Unit-1: Prop and Vehicle Design

- Introduction to the proportions of the animal
- To understand various perspectives and proportions.
- To create concept designs, while understanding the practical requirements of various components of a vehicle.
- To understand how to create props, vehicles and other assets. It focuses on providing an in-depth study on the perspective & proportional drawing for vehicle & props.

Unit-2: Architecture Study

- Introduction to Architecture from different parts of the world.
- To understand how to break down an image to repeatable elements. Understand perspective and proportion to assemble a larger object based on elements
- To observe in detail, architecture and understand the role of perspective and proportion.
- To work in a team to create a concept and work on separate aspects of the concept individually while maintaining proportion, perspective and style.
- To understand how to break down an image to repeatable elements. Understand perspective and proportion to assemble a larger object based on elements

Reference Books:

1. Mechanika, Revised and Updated: Creating the Art of Space, Aliens, Robots and Sci-Fi – Doug Chiang

Semester 3: Paper 5: Art History & Design I

Unit 1: Comics 1- Comic Design

- To understand the basic history of comics and script writing.
- To understand the interpretation & creativity of the student

Unit 2: History 1 – Ancient Civilizations

- To understand Ancient civilizations and how their discoveries in art and architecture are still with us today
- Provide an overall understanding on ancient philosophy
- Provide a fair understanding on art form Egypt, Greece, ancient India and Rome

Unit 3: Introduction to Product design

- To understand the concepts of designing & finally coming out with designs of products with recyclable materials.

Reference:

1. 10,000 Years of Art – Phaidon Press
2. The Power of Comics: History, form and Culture

Supporting Language paper

Semester 3: Paper 6 : Subject: English III

Semester 3: Paper 7 : Subject: French III

The syllabus for language I & II will be prescribed by the concerned board of studies

Semester 4: Paper 1: Organic Modelling I

Learning Outcomes:	
1	The ability to create a realistic character as per specification for games.
2	A strengthened understanding of human anatomy and form.
3	Strengthened modeling skills, discipline and techniques for organic modeling.
4	The ability to analyze the perception of character and emotion from outward appearances and actions.
5	The ability to define character and to represent characteristics in computer-generated humanoids.

Unit 1: Human Anatomy and Proportions

- To learn human anatomy and proportions.
- To learn facial anatomy and features through sculpting
- Creating base mesh for the body and costumes
- Understanding facial anatomy
- To learn drapery, cloth wrinkles and other fabric details

Unit 2: Organic Modelling

- Strengthened modeling skills, discipline and techniques for organic modeling.
- The ability to analyze the perception of character and emotion from outward appearances and actions.
- The ability to define character and to represent characteristics in computer-generated humanoids.
- Analysis Reference for modelling and it's Properties
- Discussion on Planning for Modelling
- Exploring various Techniques of Polygonal Modelling

Reference Books:

1. Maya Character Creation: Modelling and Animation Controls by Chris Maraffi (Author)
2. Zbrush Digital Sculpting Human Anatomy by Scott Spencer
3. Modeling a Character in 3DS Max – Paul Steed

Semester 4: Paper 2: Animation III

Learning Outcomes:	
1	How to lip-sync to phonemes.
2	How to identify emotions of an individual from an audio clip to make animations that match the emotion in the audio.
3	Students learn to rid themselves of their inhibitions to act in front of a camera to capture performances.

Unit 1: Lip Syncing

- Learn how to perform lip-syncing.
- Identifying good audio for animation. Prepare a storyboard, Capture live acting and assembling the set. Set the animation frame rate, screen resolution, camera settings.

Unit 2: Camera Angles

- How to setup effective camera angles appropriate to the short. The animation has to match the camera angle in the captured video performance. Block character animation
- Refining Blocking and animating the characters.
- Polish, correct the animation.

Unit 3:

Reference Books:

1. Directing the Story: Professional Storytelling and Storyboarding Techniques for Live Action and Animation by Francis Glebas
2. The Animation Book: A Complete Guide to Animated Filmmaking-From Flip-Books to Sound Cartoons to 3-D Animation" by Kit Laybourne.

General Papers

Semester 4: Paper 3: Art History & Design II

Learning Outcomes:	
1	an overall understanding on ancient philosophy
2	a fair understanding on art form Egypt, Greece, ancient India and Rome

Unit 1: Design 1 – Elements of design

- To make students understand the concept of design.
- Making the hand free
- To make students understand colors
- Understanding shapes and different forms of design.

Unit 2: Comics 2 – Principles of Comic design

- Aims at aiding student to publish a 15 page comic book online (including cover and back cover)
- Understand the basic history of comics
- Understanding comics

Unit 3: History 2 – Medieval Art & the Renaissance.

- Aims at making students understand philosophy of medieval times and the art related to it.
- Understand medieval art and architecture
- Understand Renaissance art and architecture
- Understand the medieval and Renaissance Philosophy

Reference Books:

1. 10,000 Years of Art – Phaidon Press

Semester 4: Paper 4: Fine Arts IV

Learning Outcomes:	
1	Understanding of shapes, proportion, tonal value and light and shade
2	In-depth understanding of realistic artworks
3	Understanding of Proportion & Structure of Animal figure
4	Understanding skeleton Structure of Animal body
5	Understanding Muscle study of human body parts

Unit 1: Still Life Advanced

- Introduction to Still Life drawing
- Understand specific tools and technicalities relevant to Traditional art through practical exercises and assignments.
- Understanding the scene and establishing the proportions through detail line drawing including light and shade shape
- Understanding materials & its texture

Unit 2: Anatomy Study Advanced

- Introduction to Animal body structure & give proper understanding of Animal Anatomy.
- To develop the understanding of animals Muscles structure through practically observing and drawing it.
- Understanding of animal anatomy & designing character with animal features.
- Understanding of Proportion & Structure of different Animals.

Unit 3: Muscle Study

- Understanding muscle study of different animals.
- Understanding proportion for cartoon character of different animals.

Reference Books:

1. Human Anatomy for Artists: The Elements of Form – Eliot Goldfinger
2. *Animal Anatomy for Artists: The Elements of Form – Goldfinger*

Common Paper

Semester 4: Paper 5 : Indian Constitution

*(Common with BA, BSc, Bcom etc., as prescribed by the University)

Semester 4: Paper 6 : English IV

Semester 4: Paper 7 : French IV

The syllabus for language I & II will be prescribed by the concerned board of studies.

Semester 5: Paper 1: Hard Surface Modelling III

Learning Outcomes:	
1	Develop a low-poly vehicle (5k tris) along with a high-poly version.
2	Extract normal and AO maps.
3	Using normal, AO and specular maps on a low-poly model.
4	Rendering the output in max.

Unit 1: Creating a Hard Surface Prop

- Create both high-poly and low-poly versions of a vehicle, with the goal of creating normal, AO and specular maps.
- Learn how to create error-free normal maps and use them on low-poly models.
- Creating textures with object history.

Unit 2: Ingame Model

- Creation of a Combat vehicle. Research needs. Macro workflow and schedule.
- Creating the color, Specular and Gloss texture.
- Creating the high resolution model and normal map.

Unit 3: Normal and AO maps

- Understanding of Normal and AO Maps
- Using normal, AO and specular maps on a low-poly model.

Unit 4: Introduction to Max

- Understanding the fundamentals of 3DS Max
- Applying the concepts learnt in creation of a hard surface prop and Ingame model

Reference Books:

1. Blender 3D 2.49 Architecture, Buidlings, and Scenery – Allan Brito
2. Blender 3D Incredible Machines – Christopher Kuhn

Semester 5: Paper 2: 3D Environments II

Learning Outcomes:	
1	Understanding of the concept modular environment asset creation.
2	Stylized Texture creation through Photoshop and zbrush
3	Ability to assemble multiple assets to compose a scene

Unit 1: Modular Environment Asses creation

- To create stylized art style environment consisting of structures, foliage and props.
- Learn the best practices and approaches for creating and environment for games and movies.

Unit 2: Usage of Zbrush

- Understanding usage of zbrush /sculpt to get high quality detailed Normals as base for creating color map
- Understanding & creating diffuse, Specular and Gloss.

Unit 3: Environment Design

- Assembling the modular pieces to create the structure also modelling the Foliage
- Placing all the assets to create a well-balanced scene

Reference Books:

1. Blender 3D 2.49 Architecture, Buidlings, and Scenery – Allan Brito
2. Blender 3D Incredible Machines – Christopher Kuhn

Semester 5: Paper 3: Animation IV : Breakdown.

Learning Outcomes:	
1	Strengthen knowledge on posing and breaking down an animation.
2	Understand golden and key poses from a reference video.
3	Performance Acting as live reference for the animation assignment.

Unit 1: Concept of weight

- To reinforce the fundamentals of Body dynamics the concept of weight but with the help of their live video reference.
- To understand the body dynamics at play while doing specific actions, such as simple Lifting a heavy object, and throwing an object, Jump cycle, Idle, or run cycle (for gaming).

Unit 2: Animation Break –Down

- Learning how to break-down an animation into golden and key-poses. Creating in-between frames from the key poses and complete the animation.
- Understand how to balance weight, the body dynamics behind lifting a heavy object, and throwing the object.

Unit 3: Break Down loopable actions

- Helping understand how to break down loopable actions. Students also need to make sure that the animation and poses are valid from all points of view.
- Strengthen knowledge on posing and breaking down an animation.

Reference books:

1. Complete Animation Course, Chris Patmore, Barrons Educational Series Inc, 2015
2. The Art of DreamWorks Animation: Celebrating 20 Years of Art- Ramin Zahed (All)

Semester 5: Paper 4: Art History & Design III

Learning Outcomes:	
1	A partial understanding on Hindu and Buddhist philosophy and their aesthetics
2	understanding materials
3	working with restrictions
4	making a product

Unit 1: History 3 – Early South East Asian Art

- Understand of Hindu and Buddhis Philosophy by drawing bodhisattva padmapani.
- Knowing the names of the Rasas and their Bhavas
- Understanding of the map of Buddhism how it journeyed to China and Japan

Unit 2: Comics 3 – Graphic Novel Analysis

- Understanding the medium of comics through graphic novels
- Understanding a poem and illustrating it.

Unit 3: Design 3 – Material Study

- To make students understand material's texture and feel.
- Understanding materials, working with restrictions and making a product

Reference books:

1. 10,000 Years of Art – Phaidon Press
2. The Power of Comics: History, form and Culture

Semester 5: Paper 5: Fine Art V

Learning Outcomes:	
1	Understanding of Proportion & Structure of human Muscle
2	Understanding Muscle movement in human body
3	Understanding Muscle and its relationship with each other
4	Characterization and the personality of the character for designing any character
5	Characterizing Male and Female Gaming character and designing it
6	Designing the Quadruped / Creature character and creating story based character

Unit 1: Muscle Dynamics

- To understand the Muscles flow and the movement of it.
- To develop the understanding of human Muscles and its relationship with each other through practically observing and Drawing it.
- Understanding of Muscle Structure of human Head & Neck & Shoulder
- Understanding different Muscles and its relationship with each other (Hand to shoulder and Chest, Chest, Abs and Hip, Hip to leg and foot).

Unit 2: Character Study

- Understanding of characterization and the personality of the character
- Studying the character design and the influence of style on it
- Understanding the character design on the basis of its characterization. How to use color to create personality
- Understanding the Male Gaming & Female character and designing it
- Designing the Quadruped / Creature character and creating story based character.
- Finishing and polishing the character design for the portfolio.

Reference Books:

1. Human Anatomy for Artists: The Elements of Form – Eliot Goldfinger
2. *Animal Anatomy for Artists: The Elements of Form – Goldfinger*

Semester 6: Paper 1: 3D Environment III

Learning Outcomes:	
1	Demonstrate a higher level of knowledge and skill in the chosen subject areas.
2	Demonstrate an awareness of the broader creative possibilities the technical resource might offer in relation to the technical aims.
3	An ability to assess and debate conceptual topics related to cg art creation.
4	An understanding of game platforms and audience differences as they relate to cg art

Unit 1:

- To create a digital set from a concept provided.
- Understanding usage of zbrush /sculpt to get high quality detailed Normals as base for creating color map
- creating diffuse, Specular and Gloss
- Creating Texture Maps for the Environment
- Placing all the assets to create a well-balanced scene
- Creating a building with modular assets

Reference Books:

1. Blender 3D 2.49 Architecture, Buidlings, and Scenery – Allan Brito
2. Blender 3D Incredible Machines – Christopher Kuhn

Semester 6: Paper 2: Rigging and Skinning I

Learning Outcomes:	
1	Place joints for rigs correctly with the proper orientation.
2	Know how to set up IK/FK switch for a human arm.
3	To use the grouping method in an IK setup to set up various animation attributes for a leg.

Unit 1: Fundamentals of Rigging

- Understanding Maya Rigging Tools, Options and Techniques
- Understanding Types of Attributes
- Adding and editing Custom Attributes into a Node
- Understanding Basics of rigging, Constraints & creating Controls

Unit 2: FK/ system

- Understanding how to set up FK controls for a spine.
- Freeze Transformation, Lock-Unlock and Hide-Unhide Attributes.
- Working with Deformers and Non-linear Deformers
- Exploring Maya Joint tool, Creating and Editing Techniques
- Understanding and working with FK – IK System

Reference books:

1. Learning Blender: A Hands-On Guide to Creating 3D Animated Characters – Oliver Villar
2. Rig it Right! Maya Animation Rigging Concepts (Computers and People) by Tina O'Hailey (Author)

Semester 6: Paper 3: Rigging and Skinning II

Learning Outcomes:	
1	Know how to place of Eye and Jaw controls
2	Understand skinning by painting weights and using the component editor.
3	Understanding the functionality of Non-linear Deformers.

Unit 1: Character Rig Setup

- Understanding of a character Rig setup, Skinning and painting weights along with creating a Global control. Also use and understand deformers and rigid binding.
- Understanding Jaw and Eye Controls, Aim Constraints for eyes and a global control for the character.

Unit 2: Component Editor for skinning

- Understanding Smooth Bind & Paint Weight the mesh to the Joints. This will attach the rig to the character mesh.
- Understanding of component editor for skinning.

Unit 3: Linear & Non- linear deformers

- Understanding how to Use Linear & Non-linear deformers
- Understanding of rigid binder
- Understanding Skin Weight and Painting skin Weight tools

Reference Books:

2. Learning Blender: A Hands-On Guide to Creating 3D Animated Characters – Oliver Villar
3. Rig it Right! Maya Animation Rigging Concepts (Computers and People) by Tina O'Hailey (Author)
4. Body Language: Advanced 3D Character Rigging – Eric Allen
5. The Art of Rigging (A Definitive Guide to Character Technical Direction with Alias Maya, Volume 1) – Kiaran Ritchie

Semester 6: Paper 4: Art History & Design IV

Learning Outcomes:	
1	understanding simplicity
2	working with Materials
3	Dieter Rams philosophy on design

Unit 1: Design 4 – Product Design.

- Understand 10 Principles of design by Dieter Rams
- Understand the concept of lamp created by the student using recycled materials

Unit 2: Comics 4 – Comic design

- Understand the basic history of comics
- understanding comics and its forms and making a comic
- To understand the concept of comics in depth & creating a comic script.

Unit 3: History 4 – Medieval Indian art

- To understand the brief history of Indian painting (areas covered – (Tibet, Gujarat)-Delhi, Himachal Pradesh, Rajasthan and the Deccan Plateau)
- Using contemporary example's write about Rasa theory

Reference Books

6. 10,000 Years of Art – Phaidon Press

Semester 6: Paper 5: Fine Art VI

Learning Outcomes:	
1	Experimenting with art techniques
2	Visualizing ideas on to paper
3	To evolve students into better thinking artists

Unit 1: Visual reading

- Channel the inner self on to a blank page rather than mimicking the object in front of the viewer/student
- Experimenting with art techniques by visualizing ideas onto paper in order to evolve into a better thinking artists.

Unit 2: Art Techniques

- Trying out different types of art techniques to create an abstract art
- Use of different mediums- Pencil, Charcoal, Crayons, Pastels (Oil and Soft), Pen and Ink, Water and Oil paint etc..

Reference Books:

1. Framed Ink: Drawing and Composition for Visual Storytellers *by Marcos Mateu-Mestre and Jeffrey Katzenberg*
2. Perspective Made Easy (Dover Art Instruction) by Ernest R. Norling

Semester 7: Paper 1: Organic Modelling II

Learning Outcomes:	
1	The ability to create a realistic character as per specification for games.
2	A strengthened understanding of human anatomy and form.
3	Strengthened modeling skills, discipline and techniques for organic modeling.
4	The ability to analyze the perception of character and emotion from outward appearances and actions.
5	The ability to define character and to represent characteristics in computer-generated humanoids.

Unit 1: Stylizations

- Understanding Stylizations
- Understand the posture, weight, attitude, proportions

Unit 2: Unwrapping techniques

- Learn to create a stylized head
- To learn drapery, cloth wrinkles and other fabric details
- To learn unwrapping techniques used for an organic model
- Creating Color, Normal, Specular, Gloss, SSS and other special maps
- Developing a character based on the concept provided following appropriate art style guidelines

Reference Books:

1. Maya Character Creation: Modelling and Animation Controls by Chris Maraffi (Author)
2. Zbrush Digital Sculpting Human Anatomy by Scott Spencer
3. Modeling a Character in 3DS Max – Paul Steed

Semester 7: Paper 2: Rigging & Skinning III

Learning Outcomes:	
1	Understanding of Stretchy FK/IK Hand setup, Finger Control.
2	Understanding Binding mesh with Joint and painting weight for proper skinning.
3	Understanding how to Create a Spine Setup and GUI for face

Unit 1: Cartoon Character rig

- To understand complete Cartoon Character rig.
- Understanding Skin Weight and Painting skin Weight tools
- Facial Rig setup and Facial Controllers

Unit 2: Stretchy Rig Setup

- To develop the understanding of Stretchy Rig setup, Skinning and painting weights and the creating Facial control & GUI.
- Understanding Create Joint Setup & Controls for Cartoon Character
- Understanding to Create a Stretchy FK/IK Hand setup, Finger Control and have to create a IK Leg setup

Unit 3: Spine Setup

- Understanding how to Create a Spine Setup, GUI for face
- Understanding how to complete Smooth Bind & Paint Weight the mesh to the Joints.
- Dynamic Rig setup
- Rig Setup with twisting lower arm, FK/IK switches controls, Stretchable Joints, and Global Scale controller

Reference Books:

1. Inspired 3D Advanced Rigging and Deformations by Brad Clark (Author), John Hood (Author), Joe Harkins (Author)
2. Rig it Right! Maya Animation Rigging Concepts (Computers and People) by Tina O'Hailey (Author)
3. Body Language: Advanced 3D Character Rigging – Eric Allen

Semester 7: Paper 3: Animation V: Planning to Polish

Learning Outcomes:	
1	Understand basic fundamentals Body dynamics of animals or quadruped creatures.
2	How to identify transfer of weight in bipeds and quadruped creatures.
3	Learn to observation animation of bipeds and quadrupeds.

Unit 1: 3D Character Modelling – Quadruped

- Understand how to balance weight while creating a quadruped walk-cycle.
- Anatomical Study for Character Modelling and Planning Mesh Flows / Face Loops

Unit 2: Body Dynamics

- To understand how to balance weight, and to understand the body dynamics behind a combat and idle animation, with the help of a reference
- To help reinforce the fundamentals of Body dynamics and the concept of weight with the help of live video references and books.

Unit 3: 3D Character Modelling – Biped

- To practically understand regarding body dynamics at play when it comes to Bipeds and
- Anatomical Study for Character Modelling and Planning Mesh Flows / Face Loops
- Model a Biped Character | Human Character Modelling Quadrupeds.

Reference Books:

1. Simplified Drawing for Planning Animation – Wayne Gilbert
2. Complete Animation Course, Chris Patmore, Barrons Educational Series Inc, 2015
3. Blender 2.5 Character Animation Cookbook – Virgilio Vasconcelos

Semester 7: Paper 4: Art History & Design V

Unit 1: History 5 – Middle Eastern and the enlightenment.

Learning Outcomes:	
1	Studying Medieval eastern art and its ideas
2	European art of the 17 and 18th century

Unit 1: Art of the enlightenment era

- To understand how the art of the enlightenment era paved way to the modern society
- Understand the points that defined the age of romanticism
- Understand what defines Baroque painting

Unit 2: Comics 5 – Gender Studies in Comics

- To understand gender and race and questioning its identity through comics
- To understand gender comics and make a comic out of it.

Reference Books:

1. 10,000 Years of Art – Phaidon Press

Semester 8:

Project Work

- **Project 1:** Game Engine based interactive presentation
- **Project 2:** Animation Short clip

Assessment Modes

Continuous assessment Earning of Credits and Awards of Grades

The evaluation of the candidate shall be based on continuous assessment. The structure for evaluation is as follows:

1 Assessment and evaluation processes happens continuously. Every paper/module consists of assessed assignments/seminars/presentations.

2 The performance of a candidate in a course will be assessed for a maximum of 100 marks as explained in the table below.

7. **20 marks for assignments per paper.**
   80 marks for exams practical or theory per paper.

8. During the 18th-20th week of the semester, a semester-end examination of as indicated in the table below shall be conducted for each course. This forms the exam component of the assessment and the maximum marks of the final component will be 80.

Evaluation of Project/Thesis/Dissertation/Internship

The candidate has to submit assignments periodically and also present his/her progress in the form of seminars in addition to the regular discussion with the guide.

Attendance

In case a candidate's class attendance in a course is less than 75% or as stipulated by the University, the candidate is said to have DROPPED that course, and such a candidate is not allowed to advance to the next semester.

In case a candidate's lab attendance in a course is less than 75% or as stipulated by the University, the candidate is said to have DROPPED that course, and such a candidate is not allowed to advance to the next semester.

Dropped Modules

In case of dropped modules, students will have to reappear for the exam a year later. Students cannot advance to the next semester if a paper from 2 semesters prior has not been cleared.

Weightage of Marks

Semester I

Sl. No	Subject Code	QP code	Title	Paper Type	L	T	P	credits	Marks					
									IA		University Exam		Total	
									C1	C2	C3			
									Max	Max	Max	Min	Max	Min
1			**Digital modeling in 3D**	Practical	0	1	3	4	10	10	80	24	100	40
2			**2D Digital Art**	Practical	0	1	3	4	10	10	80	24	100	40
3			**Hard Surface Modeling I**	Practical	0	2	3	5	10	10	80	24	100	40
4			**Fine Art I**	Practical	0	3	0	3	10	10	80	24	100	40
5		50101	**English I**	Theory	2	0	0	2	10	10	80	24	100	40
6		50102	**French I**	Theory	2	0	0	2	10	10	80	24	100	40
7		50103	**Computer fundamentals**	Theory	2	0	0	2	10	10	80	24	100	40
			Total		**6**	**7**	**9**	**22**					**700**	**280**

Note : Minimum Pass - Theory / Practical 30% & Per Subject 40%

Semester II

Sl. No	Subject Code	QP code	Title	Paper Type	L	T	P	credits	Marks					
									IA		University Exam		Total	
									C1	C2	C3			
									Max	Max	Max	Min	Max	Min
1			**Hard Surface Modeling II**	Practical	0	1	2	**3**	10	10	80	24	100	40
2			**High Detail Sculpting I**	Practical	0	2	2	**4**	10	10	80	24	100	40
3			**Software For Animation**	Practical	0	1	1	**2**	10	10	80	24	100	40
4			**Anim I : Principles of Animation**	Practical	0	1	2	**3**	10	10	80	24	100	40
5			**Fine Art II**	Practical	0	0	2	**2**	10	10	80	24	100	40
6			**English II**	Theory	3	0	0	**3**	10	10	80	24	100	40
7			**French II**	Theory	3	0	0	**3**	10	10	80	24	100	40
8			**Environmental Studies**	Theory	2	0	0	**2**	10	10	80	24	100	40
			Total		**8**	**5**	**9**	**22**					**800**	**320**

Note : Minimum Pass - Theory / Practical 30% & Per Subject 40%

Semester III

Sl. No	Subject Code	QP code	Title	Paper Type	L	T	P	credits	Marks					
									IA		University Exam		Total	
									C1	C2	C3			
									Max	Max	Max	Min	Max	Min
1			**Texture And Environment Creation**	Practical	0	3	2	**5**	10	10	80	24	100	40
2			**3D Environment I**	Practical	0	1	1	**2**	10	10	80	24	100	40
3			**Animation II**	Practical	0	2	3	**5**	10	10	80	24	100	40
4			**Fine Art III**	Practical	0	0	2	**2**	10	10	80	24	100	40
5			**Art History & Design I**	Theory	2	0	0	**2**	10	10	80	24	100	40
6			**English III**	Theory	3	0	0	**3**	10	10	80	24	100	40
7			**French III**	Theory	3	0	0	**3**	10	10	80	24	100	40
			Total		**8**	**6**	**8**	**22**					**700**	**280**

Note : Minimum Pass - Theory / Practical 30% & Per Subject 40%

Semester IV

Sl. No	Subject Code	QP code	Title	Paper Type	L	T	P	credits	Marks					
									IA		University Exam		Total	
									C1	C2	C3			
									Max	Max	Max	Min	Max	Min
1			**Organic Modeling I**	Practical	0	1	3	**4**	10	10	80	24	100	40
2			**Acting For Animation**	Practical	0	2	4	**6**	10	10	80	24	100	40
3			**Fine Art IV**	Practical	0	0	2	**2**	10	10	80	24	100	40
4			**Art History & Design II**	Theory	2	0	0	**2**	10	10	80	24	100	40
5			**Indian constitution**	Theory	2	0	0	**2**	10	10	80	24	100	40
6			**English IV**	Theory	3	0	0	**3**	10	10	80	24	100	40
7			**French IV**	Theory	3	0	0	**3**	10	10	80	24	100	40
			Total		**10**	**3**	**9**	**22**					**700**	**280**

Note : Minimum Pass - Theory / Practical 30% & Per Subject 40%

Semester V

Sl. No	Subject Code	QP code	Title	Paper Type	L	T	P	credits	Marks					
									IA		University Exam		Total	
									C1	C2	C3			
									Max	Max	Max	Min	Max	Min
1			**Hard Surface Modeling III**	Practical	0	1	4	**5**	10	10	80	24	100	40
2			**3D Environments II**	Practical	0	1	4	**5**	10	10	80	24	100	40
3			**Animation Breakdown**	Practical	0	2	4	**6**	10	10	80	24	100	40
4			**Art History & Design III**	Theory	3	0	0	**3**	10	10	80	24	100	40
5			**Fine Art V**	Theory	0	0	3	**3**	10	10	80	24	100	40
			Total		**3**	**4**	**15**	**22**					**500**	**200**

Note : Minimum Pass - Theory / Practical 30% & Per Subject 40%

Semester VI

Sl. No	Subject Code	QP code	Title	Paper Type	L	T	P	credits	Marks					
									IA		University Exam		Total	
									C1	C2	C3			
									Max	Max	Max	Min	Max	Min
1			**3D Environments III**	Practical	0	2	4	**6**	10	10	80	24	100	40
2			**Rigging and Skinning I**	Practical	0	2	4	**6**	10	10	80	24	100	40
3			**Rigging and Skinning II**	Practical	0	2	4	**6**	10	10	80	24	100	40
4			**Art History & Design IV**	Theory	2	0	0	**2**	10	10	80	24	100	40
5			**Fine Art VI**	Theory	0	0	2	**2**	10	10	80	24	100	40
			Total		**2**	**6**	**14**	**22**					**500**	**200**

Note : Minimum Pass - Theory / Practical 30% & Per Subject 40%

Semester VII

Sl. No	Subject Code	QP code	Title	Paper Type	L	T	P	credits	Marks					
									IA		University Exam		Total	
									C1	C2	C3			
									Max	Max	Max	Min	Max	Min
1			**Organic Modeling II**	Practical	0	2	5	**7**	10	10	80	24	100	40
2			**Rigging and Skinning III**	Practical	0	2	5	**7**	10	10	80	24	100	40
3			**Planning to Polish**	Practical	0	2	4	**6**	10	10	80	24	100	40
4			**Art History & Design V**	Theory	2	0	0	**2**	10	10	80	24	100	40
			Total		**2**	**6**	**14**	**22**					**400**	**160**

Note : Minimum Pass - Theory / Practical 30% & Per Subject 40%

Semester VIII

Sl. No	Subject Code	QP code	Title	Paper Type	L	T	P	credits	Marks					
									IA		University Exam		Total	
									C1	C2	C3			
									Max	Max	Max	Min	Max	Min
1			**Game Engine I**	Viva	0	2	5	**7**	10	10	80	24	100	40
2			**Project : Animation Short Clip**	Viva	0	2	0	**2**	10	10	80	24	100	40
			Total		**0**	**4**	**5**	**9**					**200**	**80**

Note : Minimum Pass - Theory / Practical 30% & Per Subject 40%

Grades

Upon successful completion of BFA (graphic design) Degree a final grade cards consisting of grades of all courses successfully completed by the candidate will be issued by the Registrar (Evaluation).

Students are awarded a final grade point for the course completed BFA and Advanced Diploma.

The **FGP** (Final Grade Point) is determined based on the **CGPA** (Cumulative Grade Point Average) which in turn is determined by the sum of all **GP** (Grade Points) divided over the total number of credit points allotted for the course.

The Grade point for a students' performance is calculated as listed below.

Marks percentage	Grade	Grade Point
P	Grade	V*G
30-39	4	v*4
40-49	5	v*5
50-59	6	v*6
60-64	6.5	v*6.5
65-69	7	v*7
70-74	7.5	v*7.5
75-79	8	v*8
80-84	8.5	v*8.5
85-89	9	v*9
90-94	9.5	v*9.5
95-100	10	v*10

Legend	
P	is percentage
G	is the grade awarded
V	is the credit value of the course
GP	grade point

Classification of Results

The Final grade point (FGP) to be awarded to the student is based on CGPA secured by the candidate is given as follows.

CGPA (Cumulative Grade Point Average) = Sum of GP / Total number of credits allotted to the course.

CGPA	FGP	
	Numerical Index	Qualitative Index
4<= CGPA < 5	5	**PASS CLASS**
5<= CGPA < 6	6	**SECOND CLASS**
6 <= CGPA < 7	7	**FIRST CLASS**
7 <= CGPA < 8	8	
8 <= CGPA < 9	9	**DISTINCTION**
9 <= CGPA < 10	10	
Overall percentage = 10*CGPA		

Conclusion

The AIGA BFA in Digital Art and Animation course aims to align itself with the University Of Mysores' goal to make the entire program learner-centric and provide the student with an academically rich learning system with abundant provision for skill practice that he/she could learn in-depth, could transform him/herself to be creative penetrative and applicative and finally he/she could become potential enough to excel in any career he/she chooses.